

# FIELD MAINTENANCE PRINT SET

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| B-TC-11/23-0-1   | FIELD MAINTENANCE PRINT SET         |
| E-UA-11/23-0-0   | UNIT ASSY 11/23                     |
| K-PL-11/23-0-DBP | UNIT ASSY 11/23 (PL)                |
| B-PL-11/23-0     | SHIPPING LIST 11/23                 |
| MP00734          | FIELD MAINTENANCE PRINT SET KDF11-A |
| MP00489          | FIELD MAINTENANCE PRINT SET BDV11-A |
| MP00487          | FIELD MAINTENANCE PRINT SET BA11-N  |
| MP00566          | FIELD MAINTENANCE PRINT SET MSV11-D |
| MP00586          | FIELD MAINTENANCE PRINT SET DLV11-J |

[illegible]

# PDP11/23 Field Maintenance Print Set

# Digital Equipment Corporation

PRINT SET ORDER NO.  
MP00740

| REVISIONS    |             |     |  | USED ON OPTION/MODEL |             | DRN.      | DATE                                   | TITLE:                |  |  |  |  |  |  |  |  |  |
|--------------|-------------|-----|--|----------------------|-------------|-----------|----------------------------------------|-----------------------|--|--|--|--|--|--|--|--|--|
| DATE         | CHG. NO.    | REV |  |                      |             | PEG TESLA | 15 JAN 79                              | FIELD MAINT PRINT SET |  |  |  |  |  |  |  |  |  |
| 12-79        | 11/23-ML001 | A   |  | 11/23-AA             |             | CHK'D     | DATE                                   | PDP11/23              |  |  |  |  |  |  |  |  |  |
|              |             |     |  | 11/23-AB             |             | 11-9-79   |                                        |                       |  |  |  |  |  |  |  |  |  |
|              |             |     |  | 11/23-AC             |             |           |                                        |                       |  |  |  |  |  |  |  |  |  |
|              |             |     |  | 11/23-AD             |             |           |                                        |                       |  |  |  |  |  |  |  |  |  |
|              |             |     |  | 11/23-AX             |             |           |                                        |                       |  |  |  |  |  |  |  |  |  |
|              |             |     |  | 11/23-EA             |             | 11 APR 79 |                                        |                       |  |  |  |  |  |  |  |  |  |
|              |             |     |  | 11/23-EB             |             |           |                                        |                       |  |  |  |  |  |  |  |  |  |
|              |             |     |  |                      |             |           |                                        |                       |  |  |  |  |  |  |  |  |  |
| SHEET 1 OF 1 |             |     |  |                      | FIELD SERV. | DATE      | SIZE B CODE TC NUMBER 11/23-0-1 REV. B |                       |  |  |  |  |  |  |  |  |  |
|              |             |     |  |                      |             |           | DIST.                                  |                       |  |  |  |  |  |  |  |  |  |

|                  |                   |                            |                  |
|------------------|-------------------|----------------------------|------------------|
| SIZE<br><b>B</b> | CODE<br><b>TC</b> | NUMBER<br><b>11/23-0-1</b> | REV.<br><b>8</b> |
|------------------|-------------------|----------------------------|------------------|



SHEET A1 OF A1

11 NOTE: NOTE 1: SEE ITEM #5. PART #DLV11-J MUST BE M8043 CS REV E OR LATER.  
12 NOTE: NOTE 2: VARIATION YX IS FOR INTERNAL MANUFACTURING USE ONLY

|                                                                                                                                                                                                                                                                                             |             |     |                          |  |                        |  |                      |  |                   |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----|--------------------------|--|------------------------|--|----------------------|--|-------------------|------------------|
| REVISION HISTORY                                                                                                                                                                                                                                                                            |             |     | BASIC PART NO: 11/23     |  | DRN: P. TESLA          |  | DATE: 15-JAN-79      |  | D I G I T A L     |                  |
| ENG                                                                                                                                                                                                                                                                                         | ECO NUMBER  | REV | SECTION A OF A           |  | CHK'D: D. BRIGHAM      |  | DATE: 11-APR-79      |  | TITLE PARTS LIST  |                  |
| RL                                                                                                                                                                                                                                                                                          | 11/23-MLOO1 | A   | SECTION. VARIATION INDEX |  | [A] AA,AB,AC,AD,YX     |  | UNIT ASSY 11/23      |  |                   |                  |
|                                                                                                                                                                                                                                                                                             |             |     | [B]                      |  | DES.ENG.: J. KALAGHER  |  | DATE: 15-JAN-79      |  |                   |                  |
|                                                                                                                                                                                                                                                                                             |             |     | [C]                      |  | RESP.ENG.: J. KALAGHER |  | DATE: 15-JAN-79      |  | DOCUMENT NUMBER   |                  |
|                                                                                                                                                                                                                                                                                             |             |     | [D]                      |  |                        |  | SIZE                 |  | CODE              | NUMBER REV       |
|                                                                                                                                                                                                                                                                                             |             |     | [E]                      |  | MFG.ENG.: R. HAMILTON  |  | DATE: 11-APR-79      |  | K                 | PL 11/23-0-DBP A |
|                                                                                                                                                                                                                                                                                             |             |     | [F]                      |  | ASSEMBLY NUMBER:       |  | TOP DOCUMENT NUMBER: |  | FILE NAME: EDIT # |                  |
|                                                                                                                                                                                                                                                                                             |             |     |                          |  | E-UA-11/23-0-0         |  |                      |  | Z0212A.PLS 12     |                  |
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# FIELD MAINTENANCE PRINT SET

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**UNIT VARIATIONS  
COVERED BY THIS  
PRINT SET**

# KDF11-A

## Field Maintenance Print Set

# Digital Equipment Corporation

**B**

**NUMBER**  
**KDF11-A-1**

**TC**

8

| LINE | ITEM | DOCUMENT | NUMBER |
|------|------|----------|--------|
|------|------|----------|--------|

DESCRIPTION

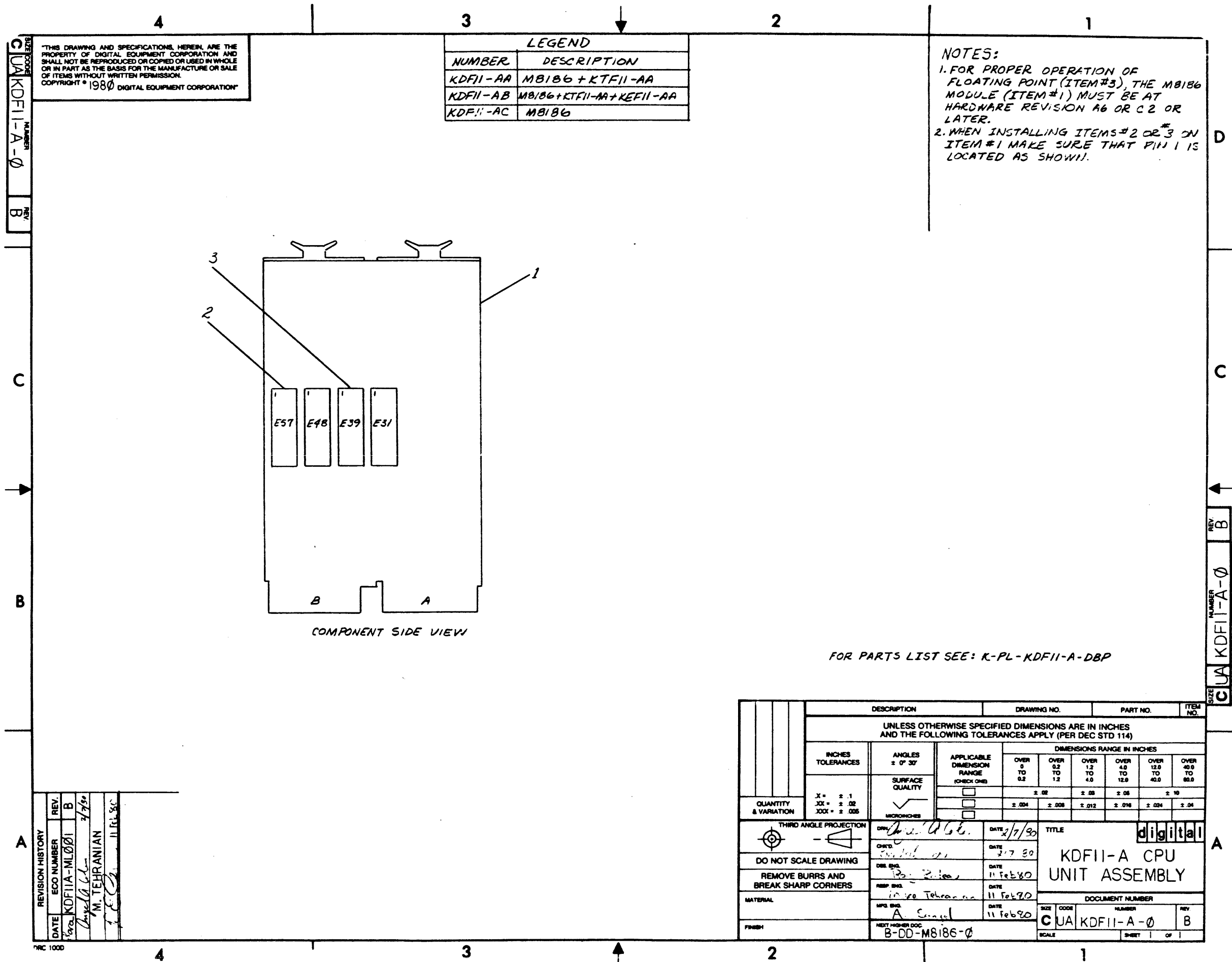
AA    AB    AC

SHEET A1 OF A1

|   |   |            |                          |   |   |   |
|---|---|------------|--------------------------|---|---|---|
| 1 | 1 | M8184-00   | 16 BIT MICROPROCESSOR    | 1 | 1 | 1 |
| 2 | 2 | 2115542-01 | F1--11 MMV W/FLOAT PT RE | 1 | 1 | 1 |
| 3 | 3 | 5700001-00 | CTL/CTL HYBRID KEF11-AA  | - | 1 | - |
| 4 | 4 | 9905622-00 | BOX, FOLDING             | 1 | 1 | 1 |

|                  |              |     |                          |  |                      |  |                      |  |                  |      |             |     |
|------------------|--------------|-----|--------------------------|--|----------------------|--|----------------------|--|------------------|------|-------------|-----|
| REVISION HISTORY |              |     | BASIC PART NO: KDF11     |  | DRN: P.BLODGETT      |  | DATE: 21-JAN-80      |  | D I G I T A L    |      |             |     |
| ENG              | ECO NUMBER   | REV | SECTION A OF A           |  | CHK'D: W.J. MAHER    |  | DATE: 21-JAN-80      |  | TITLE PARTS LIST |      |             |     |
| MT               | KDF11A-ML001 | B   | SECTION. VARIATION INDEX |  | [A] AA,AB,AC         |  | DATE: 21-JAN-80      |  | DUAL HEIGHT CPL  |      |             |     |
|                  |              |     | [B]                      |  | DES.ENG.: R. BADEAU  |  | DATE: 21-JAN-80      |  |                  |      |             |     |
|                  |              |     | [C]                      |  | RESP.ENG.: R. BADEAU |  | DATE: 21-JAN-80      |  | DOCUMENT NUMBER  |      |             |     |
|                  |              |     | [D]                      |  |                      |  |                      |  | SIZE             | CODE | NUMBER      | REV |
|                  |              |     | [E]                      |  | MFG.ENG.: A. HOFFMAN |  | DATE: 21-JAN-80      |  | K                | PL   | KDF11-A-DBP | B   |
|                  |              |     | [F]                      |  | ASSEMBLY NUMBER:     |  | TOP DOCUMENT NUMBER: |  | FILE NAME:       |      | EDIT #      |     |
|                  |              |     |                          |  | B-DD-KDF11-A-0       |  |                      |  | Z0473B.PLS       |      | 4           |     |

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| DRAWING NO.      | NO. OF SHTS. | PART NO. | DESCRIPTION                | REVISIONS |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |
|------------------|--------------|----------|----------------------------|-----------|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|
|                  |              | M8186    | HARDWARE REVISION (ETCH A) | A0        | A1 | A2 | A3 | A3 | A4 | A5 | A6 | A6 | A7 | A8 | A8 |    |  |  |  |  |  |  |  |  |  |  |  |
| D-UA-M8186-ø-ø   | 3            |          | KDF11A CPU                 | *         | A  | B  | C  | C  | C1 | C2 | C2 | C2 | C3 | C4 | C4 |    |  |  |  |  |  |  |  |  |  |  |  |
| B-PL-M8186-ø-ø   | 2            |          | PARTS LIST                 | *         | A  | B  | C  | C  | C  | C1 | C2 | C3 | C3 | C3 | C3 |    |  |  |  |  |  |  |  |  |  |  |  |
| D-CS-M8186-ø-1   | 4            |          | KDF11A CPU                 | *         | A  | B  | C  | C  | C1 | C2 | C2 | C2 | C3 | C4 | C4 |    |  |  |  |  |  |  |  |  |  |  |  |
| D-MD-5013326-ø-ø | 5            |          | DRILL & ETCH DRAWING       | *         | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |    |  |  |  |  |  |  |  |  |  |  |  |
|                  | -            | 5013326  | ETCH BOARD                 | A         | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  |    |  |  |  |  |  |  |  |  |  |  |  |
|                  |              |          |                            |           |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |
|                  |              |          |                            |           |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |
| K-PC-M8186-0-DBI | -            |          | P.C. DESIGN DATA BASE      |           |    |    |    |    | C  | C  | C  | C  | C  | C  | C  |    |  |  |  |  |  |  |  |  |  |  |  |
| D-UA-M8186-ø-ø   | 5            |          | KDF11A CPU                 |           |    |    |    |    | D  | D  | E  | E  | E  | F  | F1 | F1 |  |  |  |  |  |  |  |  |  |  |  |
| B-PL-M8186-ø-ø   | 2            |          | PARTS LIST                 |           |    |    |    |    | D  | D  | E  | F  | H  | J  | J1 | J1 |  |  |  |  |  |  |  |  |  |  |  |
| D-CS-M8186-ø-1   | 4            |          | KDF11A CPU                 |           |    |    |    |    | D  | D  | E  | E  | E  | F  | F1 | F1 |  |  |  |  |  |  |  |  |  |  |  |
| D-MD-5013326-ø-ø | 5            |          | DRILL & ETCH DRAWING       |           |    |    |    |    | D  | D  | D  | D  | D  | D  | D  | D  |  |  |  |  |  |  |  |  |  |  |  |
|                  | -            | 5013326  | ETCH BOARD                 |           |    |    |    |    | C  | C  | C  | C  | C  | C  | C  | C  |  |  |  |  |  |  |  |  |  |  |  |
|                  |              | M8186    | HARDWARE REVISION (ETCH C) |           |    |    |    |    | Cø | Cø | C1 | C2 | C2 | C3 | C4 | C4 |  |  |  |  |  |  |  |  |  |  |  |
|                  |              |          |                            |           |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |
|                  |              | M8186    | HARDWARE REVISION (ETCH D) |           |    |    |    |    |    |    |    |    |    |    | Dø | DO |  |  |  |  |  |  |  |  |  |  |  |
| D-UA-M8186-ø-ø   | 1            |          | KDF11A CPU                 |           |    |    |    |    |    |    |    |    |    |    | H  | H  |  |  |  |  |  |  |  |  |  |  |  |
| K-PL-M8186-ø-DBP | -            |          | DATA BASE PARTS LIST       |           |    |    |    |    |    |    |    |    |    |    | K  | K  |  |  |  |  |  |  |  |  |  |  |  |
| D-CS-M8186-ø-1   | 4            |          | KDF11A CPU                 |           |    |    |    |    |    |    |    |    |    |    | H  | H  |  |  |  |  |  |  |  |  |  |  |  |
| D-MD-5013326-ø-ø | 5            |          | DRILL & ETCH DRAWING       |           |    |    |    |    |    |    |    |    |    |    | E  | F  |  |  |  |  |  |  |  |  |  |  |  |
| D-EC-5013326-ø-ø | 2            |          | ETCH CUT DRAWING           |           |    |    |    |    |    |    |    |    |    |    | H  | H  |  |  |  |  |  |  |  |  |  |  |  |
| K-PC-M8186-ø-DBI | -            |          | P.C. DATA BASE DESIGN      |           |    |    |    |    |    |    |    |    |    |    | D  | D  |  |  |  |  |  |  |  |  |  |  |  |
|                  | -            | 5013326  | ETCH BOARD                 |           |    |    |    |    |    |    |    |    |    |    | D  | D  |  |  |  |  |  |  |  |  |  |  |  |
|                  |              |          |                            |           |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |
|                  |              |          |                            |           |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |

NOTES:

1. THE HARDWARE REVISION IS STAMPED ON THE MODULE HANDLE. IT IS A TWO FIELD ALPHA-NUMERIC CHARACTER. THE FIRST FIELD INDICATES THE ETCH REVISION. THE SECOND FIELD INDICATES THE NUMBER OF MODIFICATIONS TO THE BASIC BOARD.

2. THERE WERE NO ETCH REVISION B BOARDS RELEASED TO PRODUCTION.

| REVISIONS |         | REV.    | * | A | B | C | D | E | F | H | J | K | L | M |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------|---------|---------|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| DATE      | CHG NO. | INITIAL |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-79      |         | MLøø1   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-79      |         | MLøø2   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-79      |         | MLøø3   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-79      |         | MLøø4   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7-79      |         | MLøø5   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10-79     |         | MLøø6   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11-79     |         | MLøø7   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12-79     |         | MLøø8   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-80      |         | MLøø9   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-80      |         | MLøø1ø  |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4-81      |         | MLøø11  |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8-82      |         | MLøø11  |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |

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USED ON OPTION/MODEL

KDF11A

DRN. RITA Z. BUREAU

CHK'D *D. Bosman*

ENG. G.O.PP *Greg Opp*

PROD. G.O.PP *Greg Opp*

28FEB79

15MAY81

20MAY81

20MAY81

TITLE

KDF11A CPU

SIZE B

CODE DD

NUMBER M8186-0

REV. M

SHEET

OF

8

H 0-0-9818W 7

6

5

4

3

2

1

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| JUMPER CONFIGURATIONS |                                   |                                                                                     |                    |     |     |                 |
|-----------------------|-----------------------------------|-------------------------------------------------------------------------------------|--------------------|-----|-----|-----------------|
| JUMPER                | NAME                              | FUNCTIONALITY                                                                       |                    |     |     | SHIPPING STATUS |
| W1                    | MASTER CLOCK                      | IN=ENABLED                                                                          |                    |     |     | IN              |
| W2                    | RESERVED FOR DEC USE              | FACTORY CONFIGURED, DO NOT CHANGE                                                   |                    |     |     | OUT             |
| W3                    | RESERVED FOR DEC USE              | FACTORY CONFIGURED, DO NOT CHANGE                                                   |                    |     |     | IN              |
| W4                    | EVENT LINE ENABLE                 | OUT=ENABLED                                                                         |                    |     |     | IN              |
| W5,W6                 | POWER UP MODE                     | MODE                                                                                | NAME               | W5  | W6  | W5-IN<br>W6-OUT |
|                       |                                   | 0                                                                                   | PC@24, PS@26       | OUT | OUT |                 |
|                       |                                   | 1                                                                                   | CONSOLE ODT        | N   | OUT |                 |
|                       |                                   | 2                                                                                   | BOOTSTRAP          | OUT | IN  |                 |
|                       |                                   | 3                                                                                   | EXTENDED MICROCODE | IN  | IN  |                 |
| W7                    | HALT/TRAP OPTION                  | IN=TRAP TO I08 ON HALT<br>OUT=ENTER CONSOLE ODT ON HALT                             |                    |     |     | OUT             |
| W8                    | BOOTSTRAP ADDRESS                 | IN=POWER UP TO 1730008<br>OUT=POWER UP TO ADDRESS SPECIFIED BY W9-W15               |                    |     |     | IN              |
| W9-W15                | USER SELECTABLE BOOTSTRAP ADDRESS | W9-W15 CORRESPOND TO ADDRESS BITS 9 THRU 15 RESPECTIVELY<br>IN=LOGIC 1, OUT=LOGIC 0 |                    |     |     | IN              |
| W16,W17               | RESERVED FOR DEC USE              | FACTORY CONFIGURED, DO NOT CHANGE                                                   |                    |     |     | IN              |
| W18                   | WAKE-UP CIRCUIT                   | OUT= ENABLED                                                                        |                    |     |     | IN              |

NOTES: 1. REFER TO PARTS LIST FOR ALL NUMBERED ITEMS.

2. W2 IS A SPARE JUMPER.

3. E39, E48 & E57 ARE SPARE IC'S.

STEP 6 → Y AXIS — STEP — TIMES  
REPEAT → X AXIS — STEP — TIMES

|                |   |
|----------------|---|
| CHANGE NO. REV | H |
| REDRAWN        |   |
| M8186-M1010    |   |

8

7

6

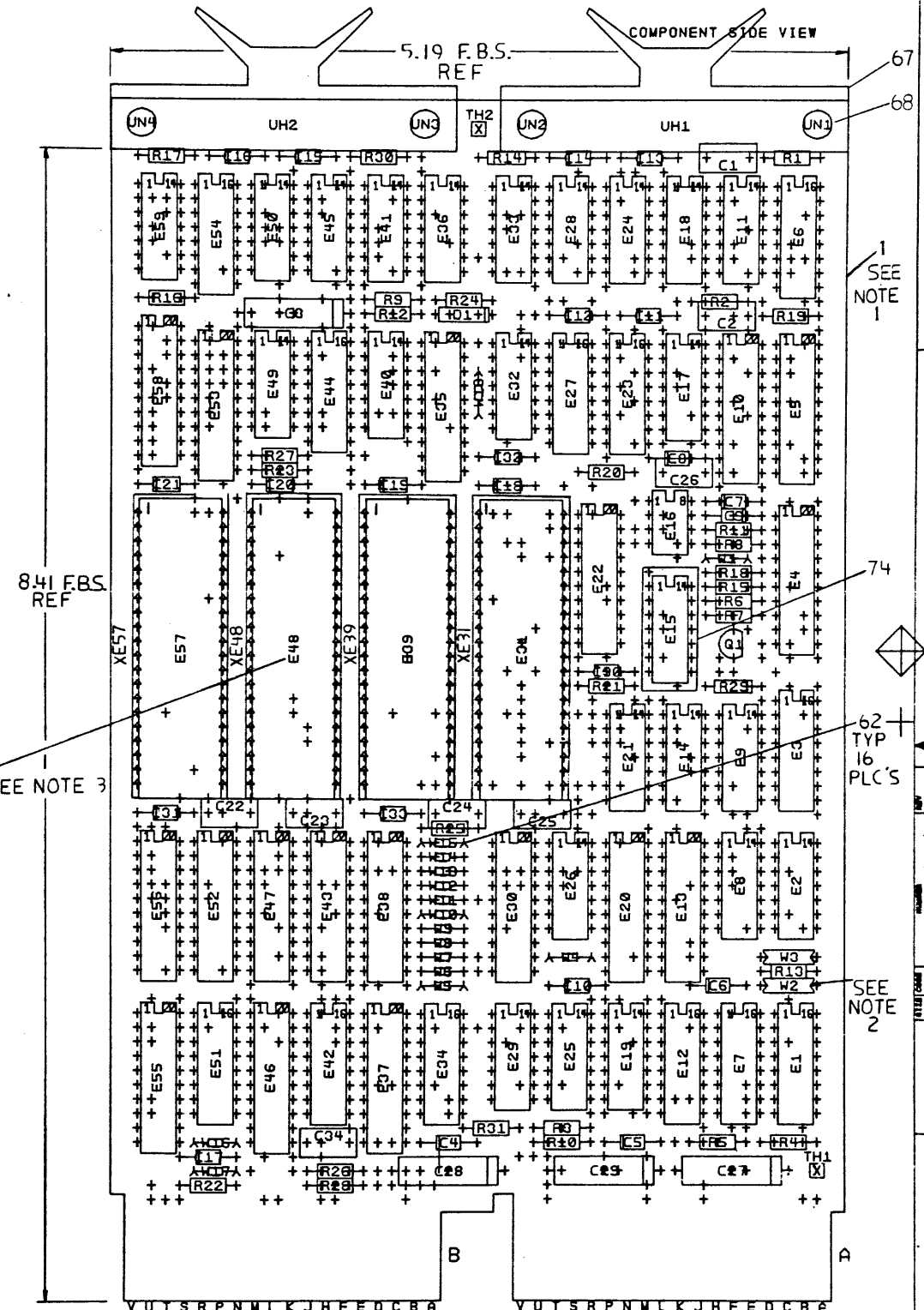
5

4

3

2

1



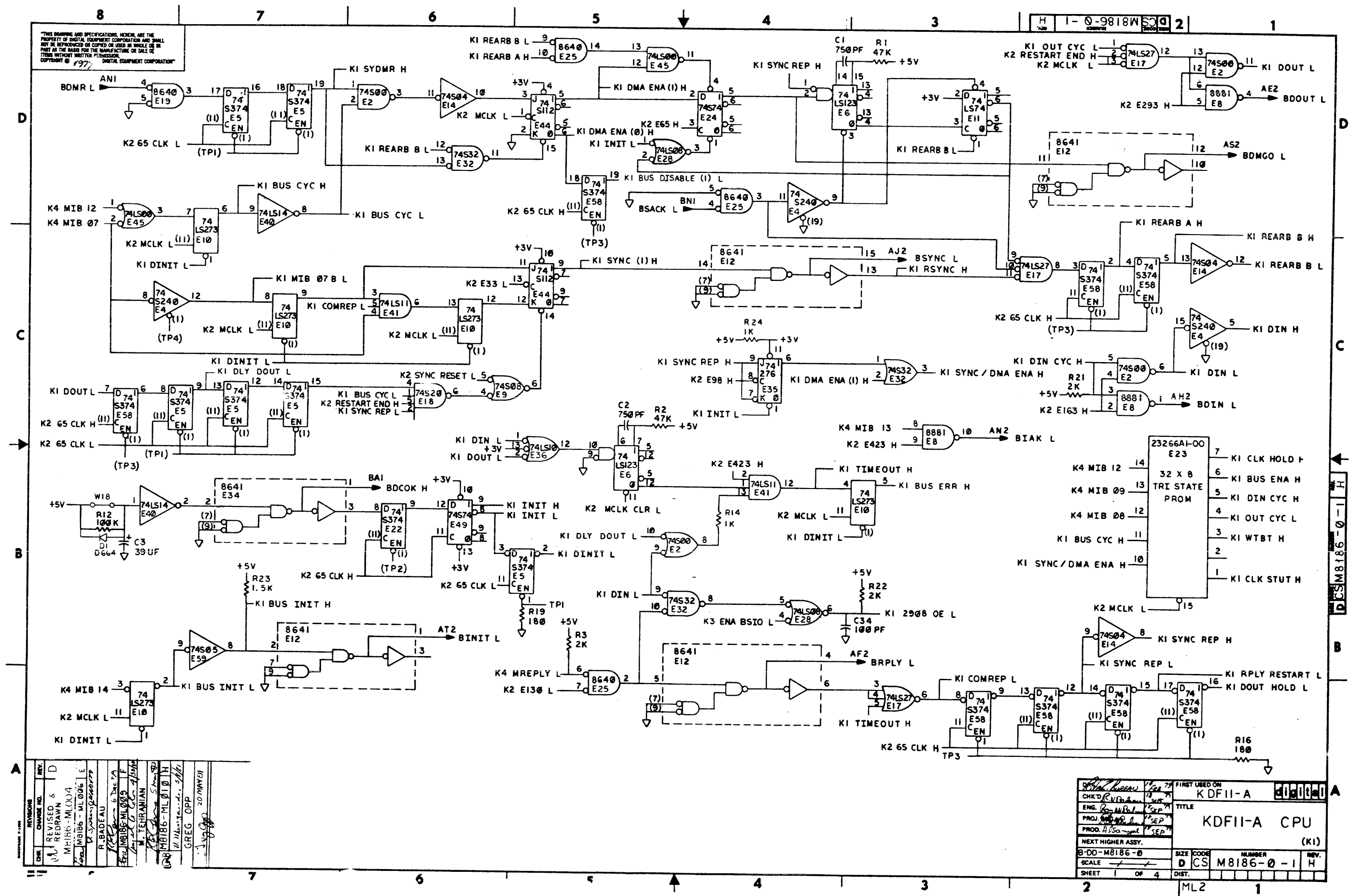
| LINE | ITEM | DOCUMENT NUMBER  | PART NUMBER | DESCRIPTION                 | QTY PER VARIATION<br>00 | REFERENCE DESIGNATOR |
|------|------|------------------|-------------|-----------------------------|-------------------------|----------------------|
| 1    | 1    | D-MD-5013326-0-0 | 5013326-00  | KDF11-CPU                   | 1                       |                      |
| 2    | 2    |                  | 1912799-00  | LS00 NAND-GATE-QUAD 2IN,P   | 1                       | E45                  |
| 3    | 3    |                  | 1910532-00  | 74S00 NAND GATE-QUAD 2IN    | 1                       | E2                   |
| 4    | 4    |                  | 1912388-00  | 74S02 NOR GATE-QUAD 2IN,PO  | 1                       | E33                  |
| 5    | 5    |                  | 1910534-00  | 74S04 INVERTER GATE-HEX 1I  | 1                       | E14                  |
| 6    | 6    |                  | 1910535-00  | 74S05 INVERTER GATE-HEX 1   | 1                       | E59                  |
| 7    | 7    |                  | 1912805-00  | LS08 AND GATE-QUAD 2IN,PO   | 1                       | E28                  |
| 8    | 8    |                  | 1912389-00  | 74S08 AND GATE-QUAD 2IN,PO  | 1                       | E9                   |
| 9    | 9    |                  | 1912807-00  | LS10 NAND GATE-TRIPLE 3IN   | 1                       | E36                  |
| 10   | 10   |                  | 1912808-00  | LS11 AND GATE-TRIPLE 3IN    | 1                       | E41                  |
| 11   | 11   |                  | 1913414-00  | LS14 INVERTER GATE-HEX SC   | 1                       | E40                  |
| 12   | 12   |                  | 1910539-00  | 74S20 NAND GATE-DUAL 4INPU  | 1                       | E18                  |
| 13   | 13   |                  | 1912813-00  | LS27 NOR GATE-TRIPLE 3IN    | 1                       | E17                  |
| 14   | 14   |                  | 1913340-00  | 74S32 OR GATE-QUAD 2IN      | 1                       | E32                  |
| 15   | 15   |                  | 1910542-00  | 74S64 A-0-I GATE 4-2-3-2    | 2                       | E21,E50              |
| 16   | 16   |                  | 1912824-00  | LS74 FF-D DUAL,EDGE TRIGG   | 2                       | E11,E29              |
| 17   | 17   |                  | 1910544-00  | 74S74 FF-D DUAL,EDGE TRIGG  | 2                       | E24,E49              |
| 18   | 18   |                  | 1912649-00  | LS75 LATCH 4BIT,BISTABLE    | 1                       | E27                  |
| 19   | 19   |                  | 1910545-00  | 74S112 FF-JK DUAL,EDGE TRIG | 1                       | E44                  |
| 20   | 20   |                  | 1912837-00  | LS123 ONE SHOT-DUAL,RETRIG  | 1                       | E6                   |
| 21   | 21   |                  | 1912842-00  | LS138 DECODER-THREE INPUT,  | 1                       | E54                  |
| 22   | 22   |                  | 1910550-00  | 74S174 FF-D HEX             | 1                       | E3                   |
| 23   | 23   |                  | 1910957-00  | 74S175 FF-D QUAD COMMON CLO | 1                       | E1                   |
| 24   | 24   |                  | 1913777-00  | LS240 DRIVER,LINE,OCTAL,T   | 2                       | E20,E30              |
| 25   | 25   |                  | 1913462-00  | 74S240 OCTAL BUFFER,INVERTI | 2                       | E4,E46               |
| 26   | 26   |                  | 1913493-00  | 74S241 OCTAL BUFFER,TRI-STA | 1                       | E13                  |
| 27   | 27   |                  | 1915193-00  | LS244 DRIVER,LINE,OCTAL,T   | 1                       | E53                  |
| 28   | 28   |                  | 1912863-00  | LS273 FF-D OCTAL W/CLEAR    | 1                       | E10                  |
| 29   | 29   |                  | 1915367-00  | 74276 FF-JK QUAD            | 1                       | E35                  |
| 30   | 30   |                  | 1913671-00  | 74S374 FF-D OCTAL TRISTATE  | 4                       | E5,E22,E38,E58       |

| REVISION HISTORY |             |     | BASIC PART NO: M8186    |  | DRN: VIN FARECHANIAN       |  | DATE: 18-JUN-79      |  | D I G I T A L    |  |
|------------------|-------------|-----|-------------------------|--|----------------------------|--|----------------------|--|------------------|--|
| ENG              | ECO NUMBER  | REV | SECTION A OF A          |  | CHK'D: T. SHETRAWSKI       |  | DATE: 4-SEP-79       |  | TITLE PARTS LIST |  |
| ---              | INITIAL     | IT  | SECTION VARIATION INDEX |  | CHK'D:                     |  | DATE: 4-SEP-79       |  | KDF11 CPU        |  |
| RB               | M8186-ML006 | E   | [A] 00                  |  |                            |  |                      |  |                  |  |
| MT               | M8186-ML007 | F   | [B]                     |  |                            |  |                      |  |                  |  |
| MT               | M8186-ML008 | H   | [C]                     |  | DES.ENG: ROY BADEAU        |  | DATE: 4-SEP-79       |  |                  |  |
| MT               | M8186-ML009 | J   | [D]                     |  |                            |  |                      |  |                  |  |
|                  |             |     | [E]                     |  |                            |  |                      |  |                  |  |
|                  |             |     | [F]                     |  | RESP.ENG.: ROY BADEAU      |  | DATE: 4-SEP-79       |  | DOCUMENT NUMBER  |  |
|                  |             |     | [G]                     |  |                            |  |                      |  |                  |  |
|                  |             |     | [H]                     |  |                            |  |                      |  |                  |  |
|                  |             |     | [I]                     |  |                            |  |                      |  |                  |  |
|                  |             |     | [J]                     |  | MFG.ENG.: AMALENDIA SANYAL |  | DATE: 4-SEP-79       |  | K PL M8186-0-DBP |  |
|                  |             |     | [K]                     |  |                            |  |                      |  |                  |  |
|                  |             |     | [L]                     |  |                            |  |                      |  |                  |  |
|                  |             |     | [M]                     |  | ASSEMBLY NUMBER:           |  | TOP DOCUMENT NUMBER: |  | FILE NAME:       |  |
|                  |             |     | [N]                     |  | D-UA-M8186-0-0             |  |                      |  | Z0224J.PLS       |  |
|                  |             |     |                         |  |                            |  |                      |  | EDIT #           |  |
|                  |             |     |                         |  |                            |  |                      |  | 21               |  |

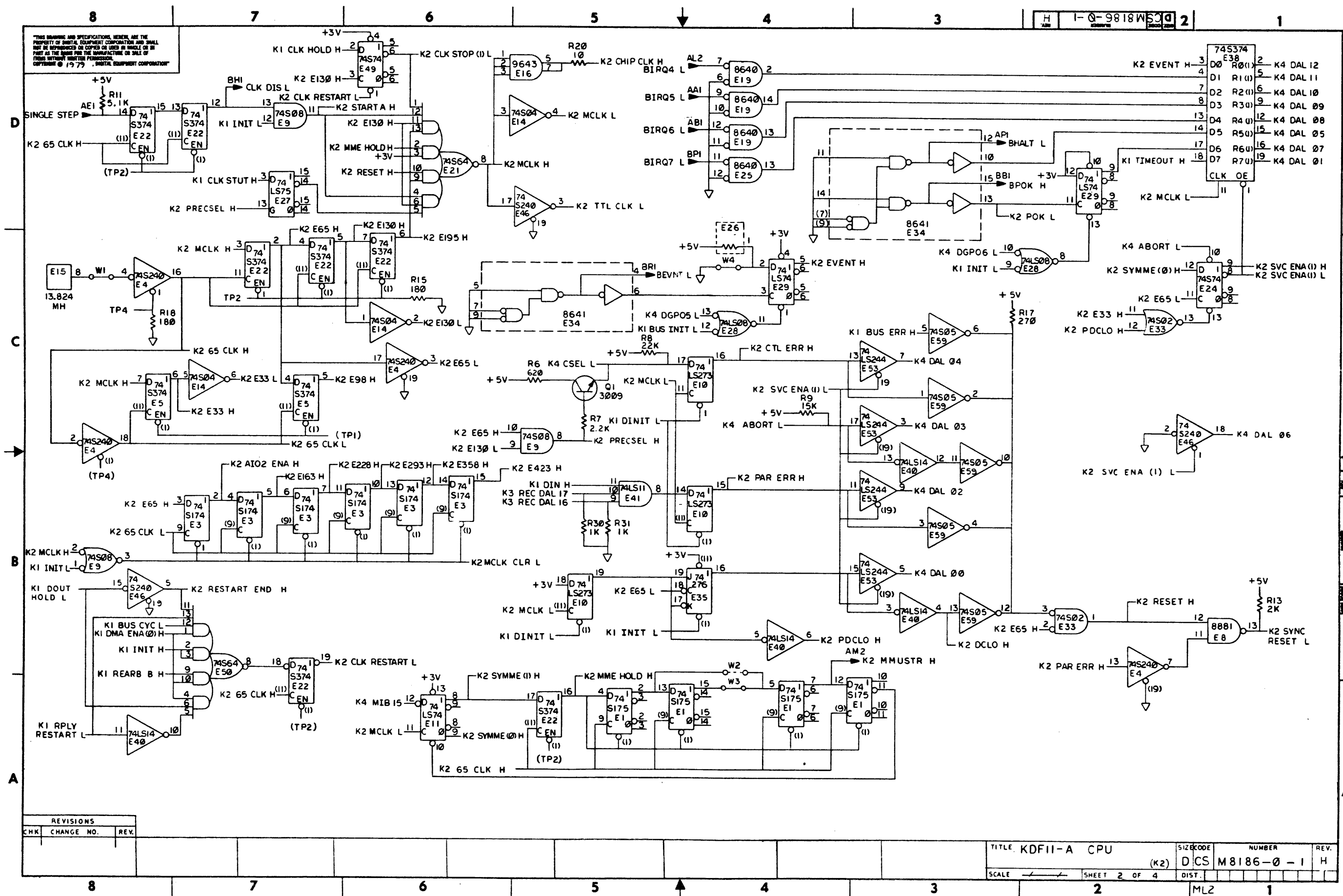
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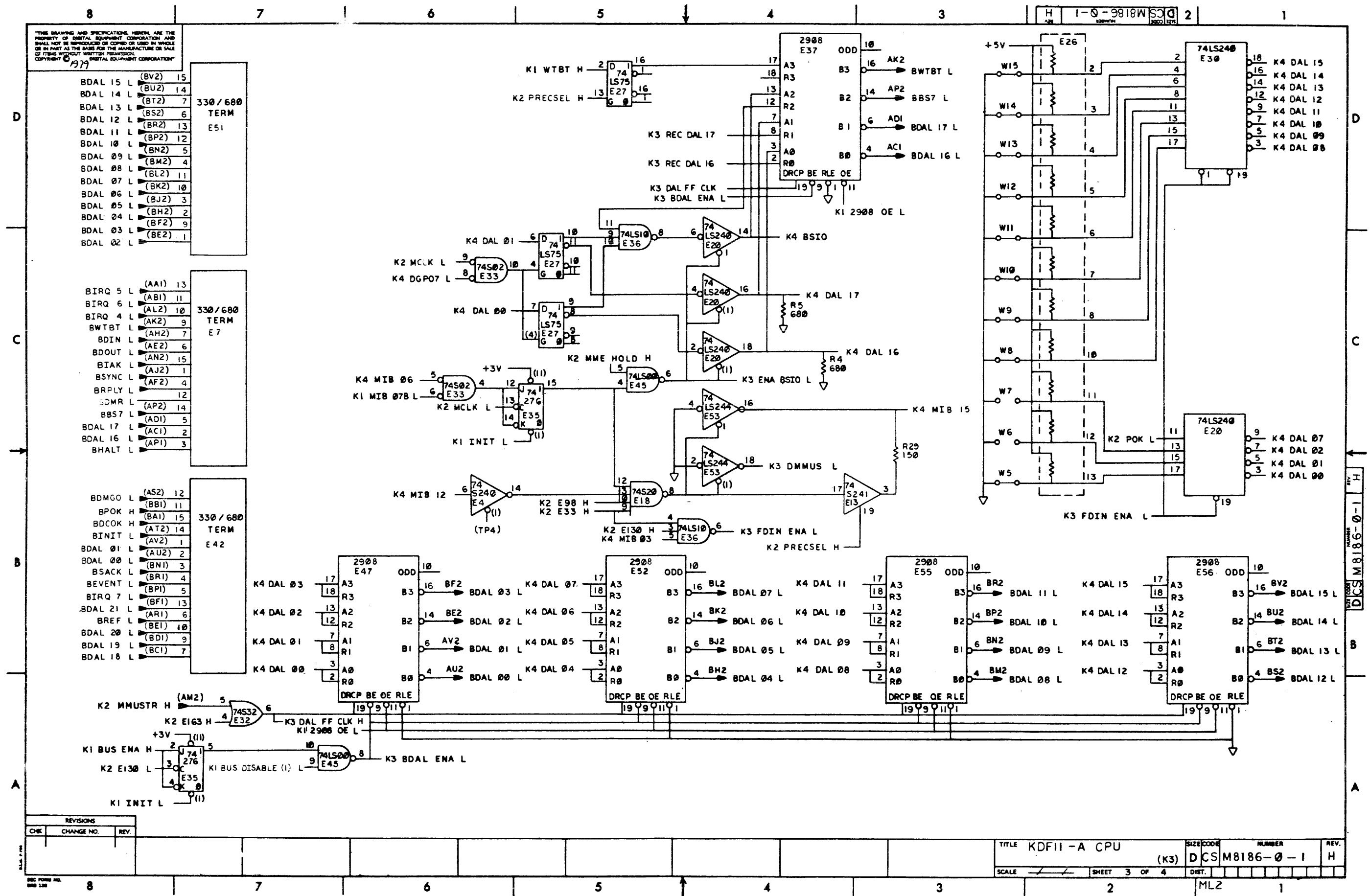
| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION                      | QTY PER VARIATION<br>00 | REFERENCE DESIGNATOR    |
|------|------|-----------------|-------------|----------------------------------|-------------------------|-------------------------|
| 31   | 31   |                 | 1911469-00  | DEC 8640 RECEIVER,BUS,QUAD,U     | 2                       | E19,E25                 |
| 32   | 32   |                 | 1911579-00  | 8641 TRANSCEIVER,BUS,QUA         | 2                       | E12,E34                 |
| 33   | 33   |                 | 1909705-00  | DEC 8881 NAND GATE-QUAD 2IN 0    | 1                       | E8                      |
| 34   | 34   |                 | 1916028-01  | 9643 DRIVER,TTL TO MOS,D         | 1                       | E16                     |
| 35   | 35   |                 | 1915305-00  | AM 2908 TRANSCEIVER,BUS,LATCH    | 6                       | E37,E43,E47,E52,E55,E56 |
| 36   | 36   |                 | 1812131-00  | OSCILLATOR, XTAL 13.824 MHZ      | 1                       | E15                     |
| 37   | 37   |                 | 23266A1-00  | A1-07                            | 1                       | E23                     |
| 38   | 38   |                 | 1311003-02  | R NETWORK 14-330 14-680 16PIN    | 3                       | E7,E42,E51              |
| 39   | 39   |                 | 1300005-02  | R NETWORK 13-6.8K 5.0 % 14PIN    | 1                       | E26                     |
| 40   | 40   |                 | 1301317-00  | 10.0 .25 W 5.0 % CC              | 1                       | R20                     |
| 41   | 41   |                 | 1300250-00  | 150.0 .25 W 5.0 % CC             | 1                       | R29                     |
| 42   | 42   |                 | 1301322-00  | 180.0 .25 W 5.0 % CC             | 4                       | R15,R16,R18,R19         |
| 43   | 43   |                 | 1301972-00  | 270.0 .25 W 5.0 % CC             | 1                       | R17                     |
| 44   | 44   |                 | 1303178-00  | 620.0 .25 W 5.0 % CC             | 1                       | R6                      |
| 45   | 45   |                 | 1301424-00  | 680.0 .25 W 5.0 % CC             | 6                       | R4,R5,R25-R28           |
| 46   | 46   |                 | 1300365-00  | 1.0 K .25 W 5.0 % CC             | 4                       | R14,R24,R30,R31         |
| 47   | 47   |                 | 1300391-00  | 1.50 K .25 W 5.0 % CC            | 2                       | R10,R23                 |
| 48   | 48   |                 | 1302388-00  | 2.0 K .25 W 5.0 % CC             | 4                       | R3,R13,R21,R22          |
| 49   | 49   |                 | 1300417-00  | 2.20 K .25 W 5.0 % CC            | 1                       | R7                      |
| 50   | 50   |                 | 1312930-00  | 5.10 K .25 W 5.0 % CC            | 1                       | R11                     |
| 51   | 51   |                 | 1302177-00  | 47.0 K .25 W 5.0 % CC            | 2                       | R1,R2                   |
| 52   | 52   |                 | 1302466-00  | 100.0 K .25 W 5.0 % CC           | 1                       | R12                     |
| 53   | 53   |                 | 1000016-00  | 100.0 MMF 100V 5%200PPM DM15S    | 1                       | C34                     |
| 54   | 54   |                 | 1013398-00  | 750.0 MMF 100V 5%200PPMD15S      | 2                       | C1,C2                   |
| 55   | 55   |                 | 1001610-00  | .01 MFD 50V +80-20% Z5UCER       | 4                       | C18,C19,C20,C21         |
| 56   | 56   |                 | 1012784-00  | .047 MFD 50V +80-20% CER         | 18                      | C4-C17,C30-C33          |
| 57   | 57   |                 | 1010274-00  | .22 MFD 50V -20+80 Z5U CER       | 5                       | C22-C26                 |
| 58   | 58   |                 | 1005306-00  | 6.8MFD 35V 10% S.TANT            | 1                       | C29                     |
| 59   | 59   |                 | 1004812-00  | 15 MFD 20V 10% S.TANT            | 2                       | C27,C28                 |
| 60   | 60   |                 | 1000076-00  | 39 MFD 10V 10% 150D S.TA         | 1                       | C3                      |
| 61   | 61   |                 | 1216116-00  | SOCKET 40PIN                     | 4                       | XE31,XE39,XE48,XE57     |
| 62   | 62   |                 | 1215899-00  | CLIP,JUMPER GOLD/TIN             | 15                      | W1,W4-W17               |
| 63   | 63   |                 | 1215901-00  | CONN 36POS STRAIGHT              | 1                       |                         |
| 64   | 64   |                 | 1503100-00  | DEC3009B NPN 200MW SI 20 25      | 1                       | Q1                      |
| 65   | 65   |                 | 2115542-01  | *** THIS ITEM IS NOT USED ***    | -                       |                         |
| 66   | 66   |                 | 5700000-01  | DAT/CTL HYBRID ASSY W/FP,DCF11-A | 1                       | E31                     |
| 67   | 67   |                 | 9008337-06  | HANDLE, FLIP CHIP, MAGENTA       | 2                       |                         |
| 68   | 68   |                 | 9006732-00  | EYELET, ROLLED FLANGE, .121 OD X | 4                       |                         |
| 69   | 69   |                 | 9009185-00  | JUMPER, WIRE, INSULATED, BLACK B | 1                       | W3                      |
| 70   | 70   |                 | 1301808-00  | 22.0 K .25 W 5.0 % CC            | 1                       | R8                      |
| 71   | 71   |                 | 1300496-00  | 15.0 K .25 W 5.0 % CC            | 1                       | R9                      |
| 72   | 72   |                 | 1100114-00  | D 664 QS\75PCB PIV= 25V SP       | 1                       | D1                      |
| 73   | 73   |                 | 9105740-22  | WIRE(WRAP)30AWG UL1423           | A/R                     | W18                     |
| 74   | 74   |                 | 9010213-01  | SPACER, DUAL IN-LINE             | 1                       |                         |

|   |   |   |   |   |   |   |           |                |      |      |                 |     |
|---|---|---|---|---|---|---|-----------|----------------|------|------|-----------------|-----|
| D | I | G | I | T | A | L | TITLE     | SECTION A OF A | SIZE | CODE | DOCUMENT NUMBER | REV |
|   |   |   |   |   |   |   | KDF11 CPU |                | K    | PL   | M8186-0-DRP     | J   |

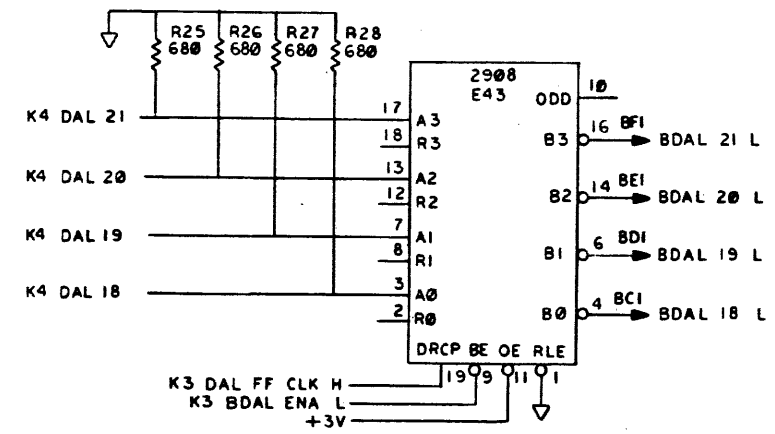
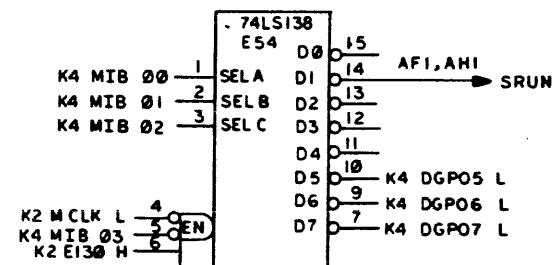
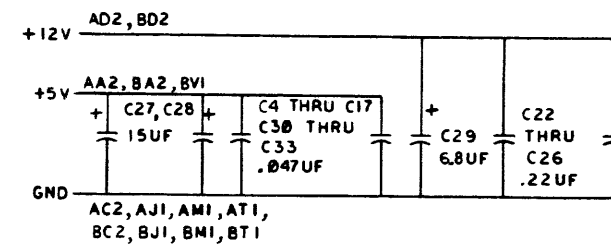
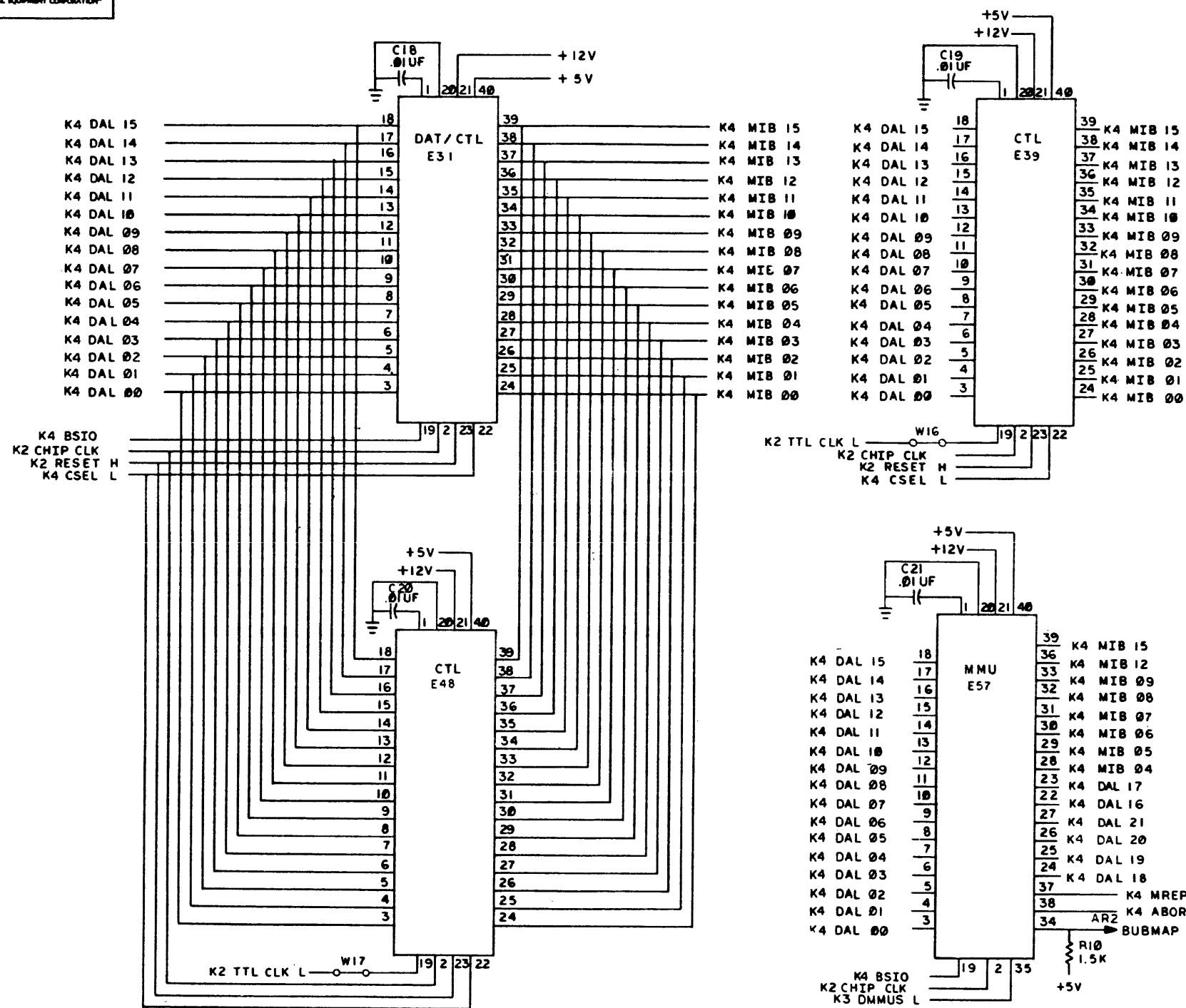








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| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |
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|                |                             |
|----------------|-----------------------------|
| B-TC-BDV11-A-1 | FIELD MAINTENANCE PRINT SET |
| D-UA-BDV11-A-0 | UNIT ASSY (BDV11-A)         |
| D-UA-M8012-0-0 | UNIT ASSY (M8012)           |
| B-PL-M8012-0-0 | PARTS LIST (M8012)          |
| D-CS-M8012-0-1 | CIRCUIT SCHEMATIC (M8012)   |
| A-SP-M8012-0-7 | ENGINEERING SPEC (M8012)    |
| A-PL-BDVLL-A   | SHIPPING LIST (BDVLL-A)     |

[illegible]

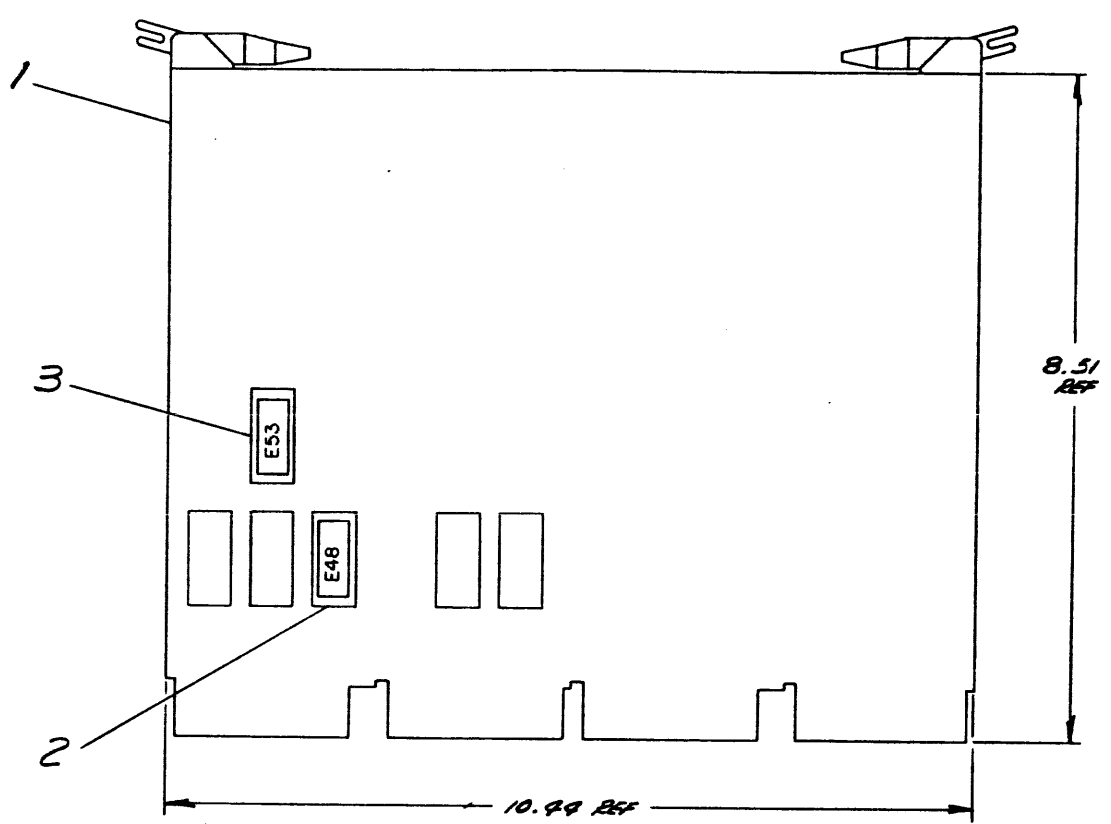
MP00489

**DRB 124**

**NOTES:**

1. CHECK WORDS FOR BDV11-AA  
DIAGNOSTIC.

017042, 020656, 065162, 161744,  
124453, 113667, 056040, 044734



|   |                                       |               |   |
|---|---------------------------------------|---------------|---|
| 1 | BDVII-A SHIPWING LIST                 | AR-BDVII-A    | 8 |
| 1 | 2K X 8 ROM                            | 23046E2       | 3 |
| 1 | 2K X 8 ROM                            | 23045E2       | 2 |
| 1 | BOOT TERMINATOR AND<br>DIAGNOSTIC ROM | D-68-M0602-YA | 1 |

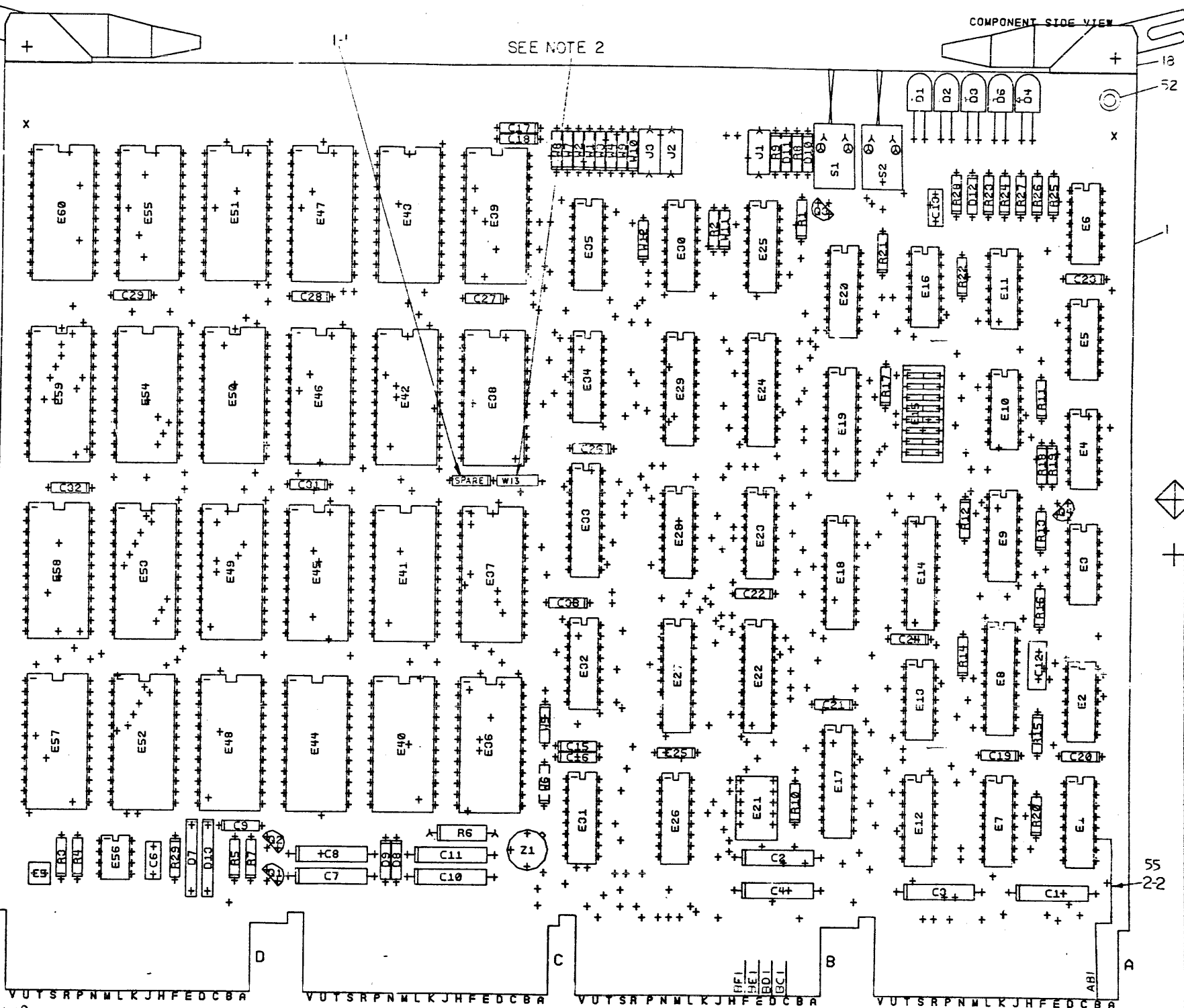
|                                                     |  | DESCRIPTION                         |  | DWG. PART NO.                      |                    | ITEM NO.           |                    |
|-----------------------------------------------------|--|-------------------------------------|--|------------------------------------|--------------------|--------------------|--------------------|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES |  |                                     |  |                                    |                    |                    |                    |
| ANGLES<br>OF 30°                                    |  | CLASS OF<br>ACCURACY<br>(CHECK ONE) |  | NOMINAL DIMENSION RANGE TOLERANCES |                    |                    |                    |
| SURFACE<br>QUALITY IN                               |  | MEDIUM <input type="checkbox"/>     |  | OVER<br>15<br>15                   | OVER<br>6.3<br>7.5 | OVER<br>4.0<br>5.0 | OVER<br>2.5<br>3.0 |
| QUANTITY &<br>VARIATION                             |  | PREFERRED <input type="checkbox"/>  |  | 1.004                              | 1.008              | 1.012              | 1.016              |
|                                                     |  |                                     |  | 1.012                              | 1.016              | 1.020              | 1.024              |
|                                                     |  |                                     |  |                                    |                    |                    |                    |
| THIRD ANGLE PROJECTION                              |  | FIRST USED ON                       |  | BDVII                              |                    |                    |                    |
| REMOVE BURRS AND<br>BREAK SHARP CORNERS             |  | TITLE                               |  | UNIT ASSY<br>(BDVII)               |                    |                    |                    |
| DO NOT SCALE DWG                                    |  | NEXT HIGHER ASSY.                   |  | SIZE CODE NUMBER REV.              |                    |                    |                    |
| MATERIAL                                            |  | B-20-BDVI-A                         |  | D UA                               |                    | BDVII-A-0          |                    |
| FINISH                                              |  | SCALE NONE                          |  | DIST.                              |                    |                    |                    |
|                                                     |  | SHEET 1 OF 1                        |  |                                    |                    |                    |                    |

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2 DUA M8012-0-0

COMPONENT SIDE VIEW

SEE NOTE 2



NOTES:

1. 8 HOLES 0.045 (4.000-0045) MAYNARD ONLY
2. W146, 81Q11 & 13 ARE OPTIONAL  
DO NOT INSTALL
3. INSTALL SOCKETS FOR E35, E48, E40, E52, E53, & E57 ONLY

| CHK | CHANGE | NO | REV |
|-----|--------|----|-----|
| 1   | 1      | 1  | 1   |
| 2   | 2      | 2  | 2   |
| 3   | 3      | 3  | 3   |
| 4   | 4      | 4  | 4   |
| 5   | 5      | 5  | 5   |
| 6   | 6      | 6  | 6   |
| 7   | 7      | 7  | 7   |
| 8   | 8      | 8  | 8   |
| 9   | 9      | 9  | 9   |
| 10  | 10     | 10 | 10  |
| 11  | 11     | 11 | 11  |
| 12  | 12     | 12 | 12  |
| 13  | 13     | 13 | 13  |
| 14  | 14     | 14 | 14  |
| 15  | 15     | 15 | 15  |
| 16  | 16     | 16 | 16  |
| 17  | 17     | 17 | 17  |
| 18  | 18     | 18 | 18  |
| 19  | 19     | 19 | 19  |
| 20  | 20     | 20 | 20  |
| 21  | 21     | 21 | 21  |
| 22  | 22     | 22 | 22  |
| 23  | 23     | 23 | 23  |
| 24  | 24     | 24 | 24  |
| 25  | 25     | 25 | 25  |
| 26  | 26     | 26 | 26  |
| 27  | 27     | 27 | 27  |
| 28  | 28     | 28 | 28  |
| 29  | 29     | 29 | 29  |
| 30  | 30     | 30 | 30  |
| 31  | 31     | 31 | 31  |
| 32  | 32     | 32 | 32  |
| 33  | 33     | 33 | 33  |
| 34  | 34     | 34 | 34  |
| 35  | 35     | 35 | 35  |
| 36  | 36     | 36 | 36  |
| 37  | 37     | 37 | 37  |
| 38  | 38     | 38 | 38  |
| 39  | 39     | 39 | 39  |
| 40  | 40     | 40 | 40  |
| 41  | 41     | 41 | 41  |
| 42  | 42     | 42 | 42  |
| 43  | 43     | 43 | 43  |
| 44  | 44     | 44 | 44  |
| 45  | 45     | 45 | 45  |
| 46  | 46     | 46 | 46  |
| 47  | 47     | 47 | 47  |
| 48  | 48     | 48 | 48  |
| 49  | 49     | 49 | 49  |
| 50  | 50     | 50 | 50  |
| 51  | 51     | 51 | 51  |
| 52  | 52     | 52 | 52  |
| 53  | 53     | 53 | 53  |
| 54  | 54     | 54 | 54  |
| 55  | 55     | 55 | 55  |
| 56  | 56     | 56 | 56  |
| 57  | 57     | 57 | 57  |
| 58  | 58     | 58 | 58  |
| 59  | 59     | 59 | 59  |
| 60  | 60     | 60 | 60  |

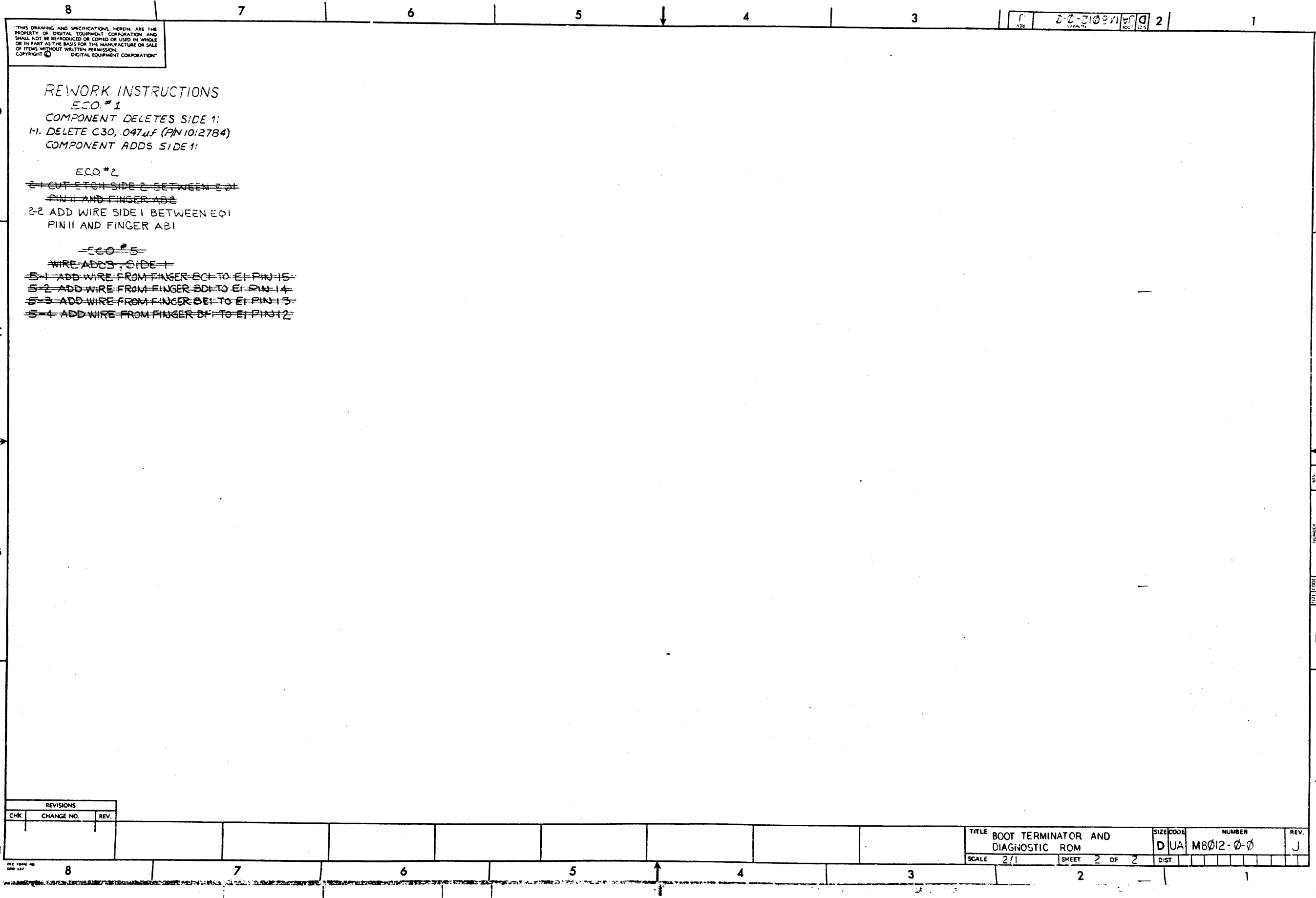
|                            |  |
|----------------------------|--|
| ETCH REV.                  |  |
| P.C. DESIGN DATA BASE REV. |  |

|                                |  |        |                                                |
|--------------------------------|--|--------|------------------------------------------------|
| SIGNATURES                     |  | DATE   | digital                                        |
| DRN. <i>[Signature]</i>        |  | 1/1/77 |                                                |
| CHK'D. <i>[Signature]</i>      |  | 1/1/77 | TITLE<br>BOOT TERMINATOR AND<br>DIAGNOSTIC ROM |
| ENG. <i>[Signature]</i> 2/1    |  | 1/1/77 |                                                |
| PROJ. ENG. <i>[Signature]</i>  |  | 1/1/77 | SIZE CODE NUMBER<br>0 UA M8012-0-0             |
| PROD. <i>[Signature]</i> 2/1   |  | 1/1/77 |                                                |
| SCALE 2/1                      |  |        | REV<br>J                                       |
| SHT. 1 OF 2                    |  |        |                                                |
| NEXT HIGHER ASSY. B-DD-M8012-0 |  |        |                                                |

digital

SIZE CODE NUMBER  
0 U A M8012-0-0

1 MS#



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2-0-310371 2

### REWORK INSTRUCTIONS

#### ECO #1

COMPONENT DELETES SIDE 1:  
1-1. DELETE C30, .047 $\mu$ f (PIN 1012784)  
COMPONENT ADDS SIDE 1:

#### ECO #2

~~2-1 CUT ETCH SIDE 2 BETWEEN E-21  
PIN 11 AND FINGER A21~~  
2-2 ADD WIRE SIDE 1 BETWEEN EQ1  
PIN 11 AND FINGER A21

#### ~~ECO #5~~

##### ~~WIRE ADDS, SIDE 1~~

~~5-1 ADD WIRE FROM FINGER BC1 TO E1 PIN 15  
5-2 ADD WIRE FROM FINGER SD1 TO E1 PIN 14  
5-3 ADD WIRE FROM FINGER DE1 TO E1 PIN 13  
5-4 ADD WIRE FROM FINGER DF1 TO E1 PIN 12~~

| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |

|                                                |            |                  |                     |           |
|------------------------------------------------|------------|------------------|---------------------|-----------|
| TITLE<br>BOOT TERMINATOR AND<br>DIAGNOSTIC ROM |            | SIZE CODE<br>DUA | NUMBER<br>M8012-0-0 | REV.<br>J |
| SCALE<br>2/1                                   | SHEET<br>2 | OF<br>2          | DIST.               |           |

| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION                      | QTY PER VARIATION |    | REFERENCE DESIGNATOR           |
|------|------|-----------------|-------------|----------------------------------|-------------------|----|--------------------------------|
|      |      |                 |             |                                  | 00                | YA |                                |
| 1    | 1    |                 | 5012569-00  | M8012                            | 1                 | 1  |                                |
| 2    | 2    |                 | 1000024-00  | 470.0 MMF 100V 5%200PPM MICA     | 1                 | 1  | C12                            |
| 3    | 3    |                 | 1001610-01  | .01 MFD50/100V +80-20% DISC      | 2                 | 2  | C6,C13                         |
| 4    | 4    |                 | 1004812-00  | 15 MFD 20V 10% S.TANT            | 4                 | 4  | C7,C8,C10,C11                  |
| 5    | 5    |                 | 1005306-00  | 6.8MFD 35V 10% S.TANT            | 4                 | 4  | C1-C4                          |
| 6    | 6    |                 | 1011740-00  | 5600.0 MMF 50V 10% CER           | 1                 | 1  | C5                             |
| 7    | 7    |                 | 1012784-00  | .047 MFD 50V +80-20% CER         | 19                | 19 | C9,C15-C29,C31-C33             |
| 8    | 8    |                 | 1103441-00  | 1N 756A VZ= 8.2 5% .40W P        | 1                 | 1  | D11                            |
| 9    | 9    |                 | 1104860-00  | 1N 746A VZ= 3.3 5%               | 1                 | 1  | D10                            |
| 10   | 10   |                 | 1105275-00  | D 672 TR= 15NS PIV= 60V SI       | 3                 | 3  | D8,D9,D12                      |
| 11   | 11   |                 | 1109991-00  | 1N 754A VZ= 6.8 5% .40W          | 2                 | 2  | D7,D13                         |
| 12   | 12   |                 | 1110864-00  | LED 2MCD310MA                    | 4                 | 4  | D1-D4                          |
| 13   | 13   |                 | 1114384-00  | LED 105MW 35MA GREEN             | 1                 | 1  | D6                             |
| 14   | 14   |                 | 1210209-00  | SW,T0G,SPDT,.01A26V,ON/ON,SUBMIN | 2                 | 2  | S1,S2                          |
| 15   | 15   |                 | 1215006-06  | SOCKET 24PIN IC LOW PROFILE      | 6                 | -  | XE36,XE40,XE48,XE52,XE53,XE57  |
|      |      |                 | CONT        |                                  | -                 | 24 | XE37-XE39,XE41-XE47,XE49-XE51, |
|      |      |                 |             |                                  |                   |    | XE54,XE55,XE58-XE60,XE36,XE40, |
|      |      |                 |             |                                  |                   |    | XE48,XE52,XE53,XE57            |
| 16   | 16   |                 | 1211164-01  | SW,DIP 1P 1A 5POS                | 1                 | 1  | E21                            |
| 17   | 17   |                 | 1211164-04  | SW,DIP 1P 1A 8POS                | 1                 | 1  | E15                            |
| 18   | 18   |                 | 1213113-01  | HANDLE,MODULE                    | 1                 | 1  |                                |
| 19   | 19   |                 | 1213974-06  | JACK 2LINE RED                   | 1                 | 1  | J2                             |
| 20   | 20   |                 | 1213974-07  | JACK 2LINE BLACK                 | 1                 | 1  | J1                             |
| 21   | 21   |                 | 1213974-03  | JACK 2LINE PURPLE                | 1                 | 1  | J3                             |
| 22   | 22   |                 | 1300271-00  | 220.0 .25 W 5.0 % CC             | 6                 | 6  | R5,R7,R25-R28                  |
| 23   | 23   |                 | 1300365-00  | 1.0 K .25 W 5.0 % CC             | 14                | 14 | R8,R11-R15,R17-R24             |
| 24   | 24   |                 | 1300417-00  | 2.20 K .25 W 5.0 % CC            | 1                 | 1  | R4                             |
| 25   | 25   |                 | 1301322-00  | 180.0 .25 W 5.0 % CC             | 1                 | 1  | R10                            |
| 26   | 26   |                 | 1301830-00  | 560.0 .25 W 5.0 % CC             | 2                 | 2  | R1,R2                          |
| 27   | 27   |                 | 1311003-01  | R NETWORK 14-180 14-390 16PIN    | 3                 | 3  | E1,E12,E26                     |

| REVISION HISTORY |             |     | BASIC PART NO: M8012    |  | DRN: A COLON                                                                                                          |  | DATE: 25-APR-78      |  | D I G I T A L              |  |            |     |
|------------------|-------------|-----|-------------------------|--|-----------------------------------------------------------------------------------------------------------------------|--|----------------------|--|----------------------------|--|------------|-----|
| ENG              | ECO NUMBER  | REV | SECTION A OF A          |  | CHK'D: R KOPPENAL                                                                                                     |  | DATE: 25-APR-78      |  | TITLE                      |  | PARTS LIST |     |
| R.R              | 00001       | C   | SECTION.VARIATION INDEX |  | DES.ENG: G GOODRICH <td colspan="2">DATE: 25-APR-78</td> <td colspan="4">BOOT-TERM &amp; DIAGNOSTIC ROM</td>          |  | DATE: 25-APR-78      |  | BOOT-TERM & DIAGNOSTIC ROM |  |            |     |
| BHF              | ML002       | D   | [A] 00,YA               |  | RESP.ENG.: G GOODRICH <td colspan="2">DATE: 25-APR-78</td> <td colspan="4">DOCUMENT NUMBER</td>                       |  | DATE: 25-APR-78      |  | DOCUMENT NUMBER            |  |            |     |
| G.G              | MJ012-ML003 | E   | [B]                     |  | MFG.ENG.: R HAMILTON <td colspan="2">DATE: 25-APR-78</td> <td colspan="2">SIZE CODE</td> <td>NUMBER</td> <td>REV</td> |  | DATE: 25-APR-78      |  | SIZE CODE                  |  | NUMBER     | REV |
| GG               | M8012-ML004 | F   | [C]                     |  | ASSEMBLY NUMBER:                                                                                                      |  | TOP DOCUMENT NUMBER: |  | FILE NAME:                 |  | EDIT #     |     |
| JC               | M8012-ML006 | H   | [D]                     |  | D-UA-M8012-0-0                                                                                                        |  | #B-DD-M8012-0        |  | Z0913H.PLS                 |  | 22         |     |
|                  |             |     | [E]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [F]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [G]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [H]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [I]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [J]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [K]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [L]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [M]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |
|                  |             |     | [N]                     |  |                                                                                                                       |  |                      |  |                            |  |            |     |

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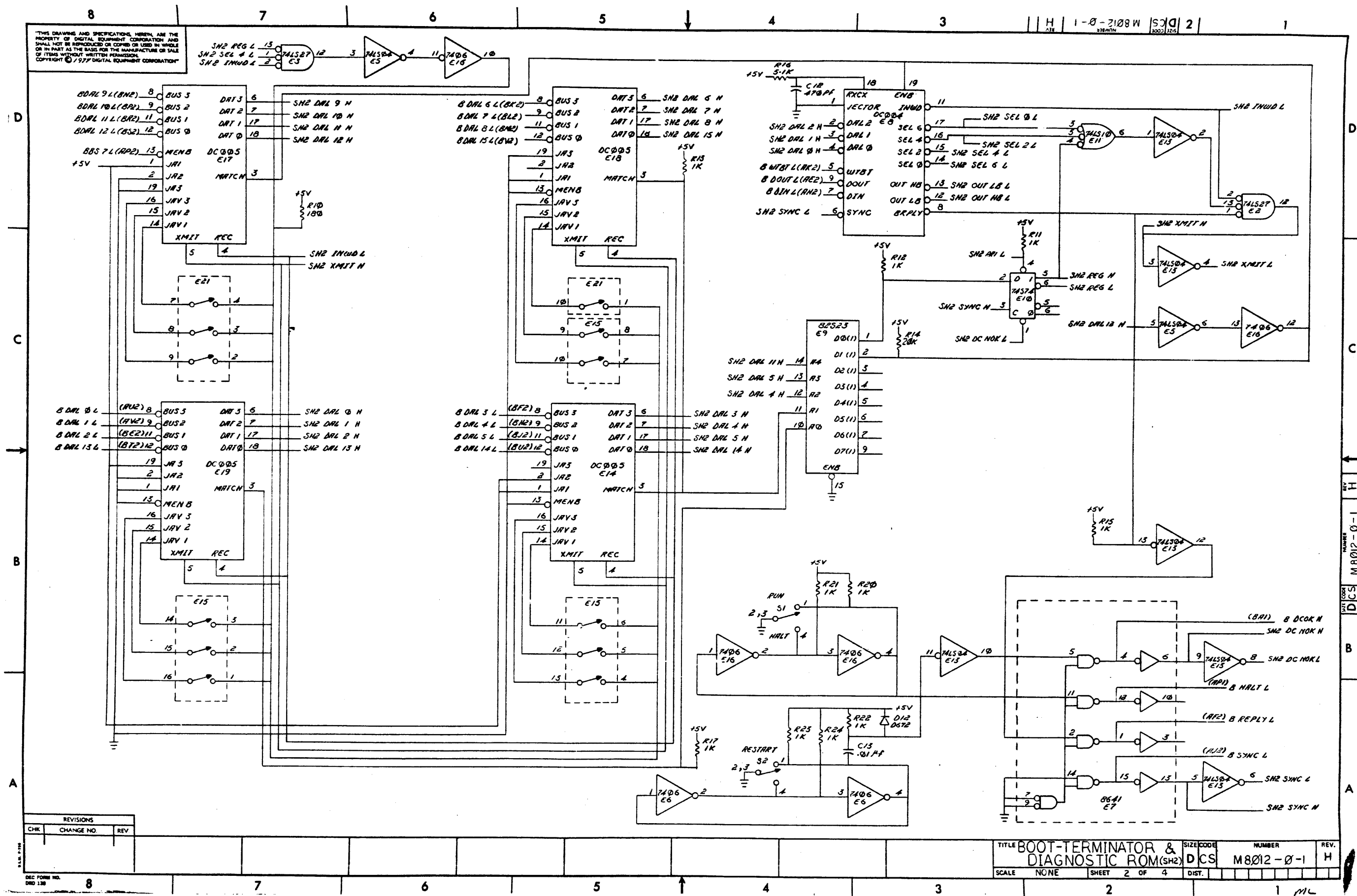


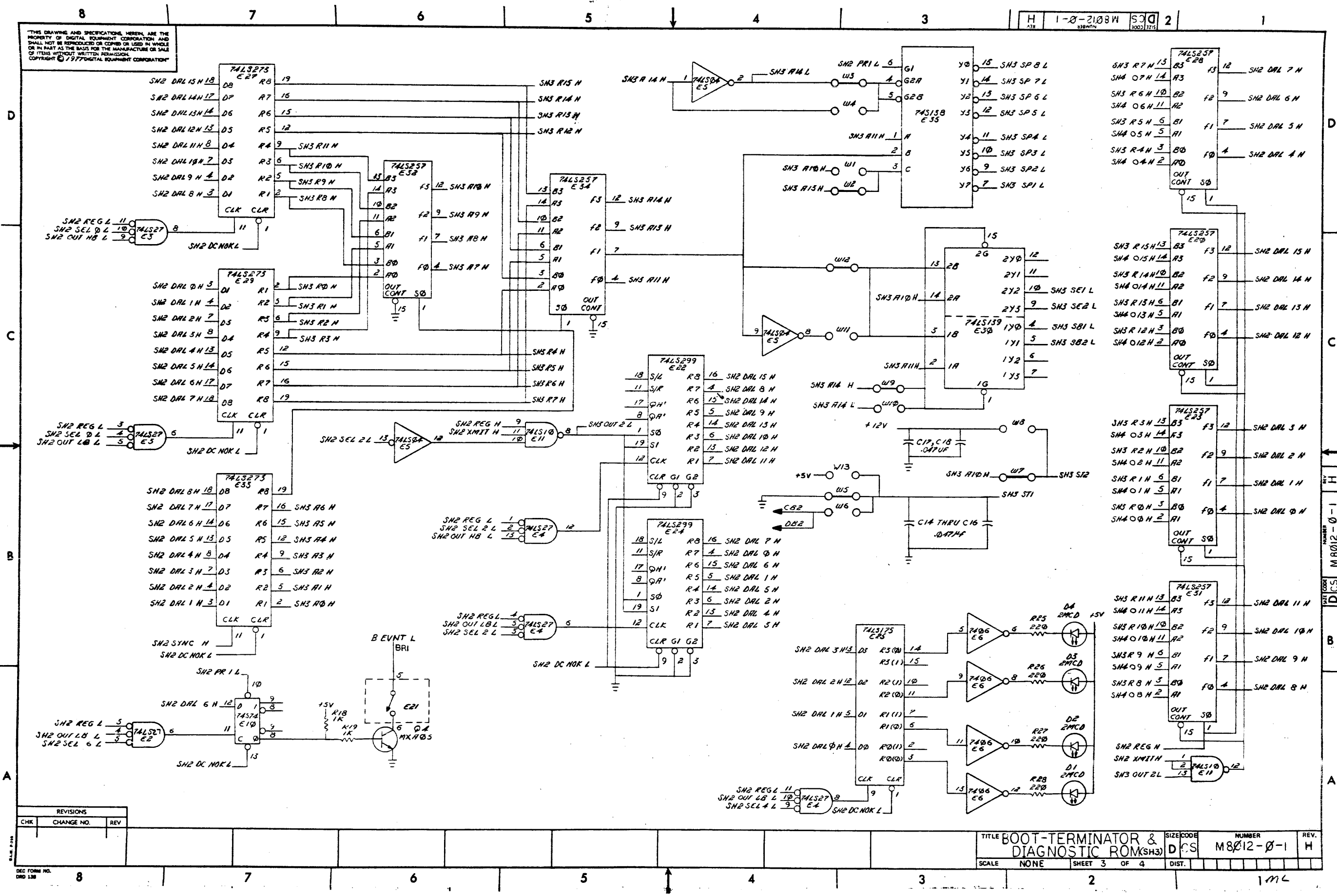
| LINE ITEM |    | DOCUMENT NUMBER  | PART NUMBER | DESCRIPTION                      | QTY PER VARIATION |     | REFERENCE DESIGNATOR    |
|-----------|----|------------------|-------------|----------------------------------|-------------------|-----|-------------------------|
|           |    |                  |             |                                  | 00                | YA  |                         |
| 28        | 28 |                  | 1309444-00  | 2.70 .50 W10.0 % CC              | 1                 | 1   | R6                      |
| 29        | 29 |                  | 1312930-00  | 5.10 K .25 W 5.0 % CC            | 2                 | 2   | R3,R16                  |
| 30        | 30 |                  | 1300247-00  | 120.0 .25 W 5.0 % CC             | 1                 | 1   | R29                     |
| 31        | 31 |                  | 1300250-00  | 150.0 .25 W 5.0 % CC             | 1                 | 1   | R9                      |
| 32        | 32 |                  | 1510705-00  | XA 05 NPN 500MW SI 60 50 P       | 3                 | 3   | Q2-Q4                   |
| 33        | 33 |                  | 1510706-00  | XA 55 PNP 500MW SI 60 50 P       | 1                 | 1   | Q1                      |
| 34        | 34 |                  | 1910741-00  | 7406 INVERTER GATE-HEX 1I        | 2                 | 2   | E6,E16                  |
| 35        | 35 |                  | 1911579-00  | 8641 TRANSCEIVER,BUS,QUA         | 1                 | 1   | E7                      |
| 36        | 36 |                  | 1911944-00  | 555CN TIMER,FUNCT.BLOCK          | 1                 | 1   | E56                     |
| 37        | 37 |                  | 1912541-00  | 79M05 VOLT REG, FIX -5V          | 1                 | 1   | Z1                      |
| 38        | 38 |                  | 1912647-00  | LS257 MUX 1 OF 2 (QUAD)          | 6                 | 6   | E20,E23,E28,E31,E32,E34 |
| 39        | 39 |                  | 1912729-00  | DC 004 PROTOCOL,REG. SELECT      | 1                 | 1   | E8                      |
| 40        | 40 |                  | 1912803-00  | 774LS04 INVERTER GATE, HEX       | 2                 | 2   | E5,E13                  |
| 41        | 41 |                  | 1912807-00  | LS10 NAND GATE-TRIPLE 3IN        | 1                 | 1   | E11                     |
| 42        | 42 |                  | 1912813-00  | LS27 NOR GATE-TRIPLE 3IN         | 3                 | 3   | E2-E4                   |
| 43        | 43 |                  | 1910544-00  | 74S74 FF-D DUAL,EDGE TRIGG       | 1                 | 1   | E10                     |
| 44        | 44 |                  | 1912842-00  | LS138 DECODER-THREE INPUT,       | 1                 | 1   | E35                     |
| 45        | 45 |                  | 1912843-00  | LS139 DECODER, 2 OF 4(DUAL       | 1                 | 1   | E30                     |
| 46        | 46 |                  | 1912853-00  | LS175 FF-D QUAD                  | 1                 | 1   | E25                     |
| 47        | 47 |                  | 1912863-00  | LS273 FF-D OCTAL W/CLEAR         | 3                 | 3   | E27,E29,E33             |
| 48        | 48 |                  | 1912868-00  | LS299 SHIFT REG. 8-BIT UNI       | 2                 | 2   | E22,E24                 |
| 49        | 49 |                  | 1913040-00  | DC 005 TRANSCEIVER 4BIT          | 4                 | 4   | E14,E17-E19             |
| 50        | 50 |                  | 23208A1-00  | A1-03,A1-04,A1-05                | 1                 | 1   | E9                      |
| 51        | 51 |                  | 9009185-00  | JUMPER, WIRE, INSULATED, BLACK B | 6                 | 6   | W2,W3,W5,W7,W9,W12      |
| 52        | 52 |                  | 9000024-01  | EYELET, ROLLED FLANGE, .121 OD X | 8                 | 8   |                         |
| 53        | 53 | BLANK            |             |                                  | 0                 | 0   |                         |
| 54        | 54 |                  | 9107256-11  | TUBING, THIN WALL, .027ID UL     | A/R               | A/R |                         |
| 55        | 55 |                  | 9105740-55  | WIRE(WRAP)30AWG UL1423           | A/R               | A/R |                         |
| 56        | 56 | D-EC-5012569-0-0 |             | ETCH CUT DRAWING                 | REF               | REF |                         |
| 57        | 57 | D-MD-5012569-0-0 |             | DRILL & ETCH DRAWING             | REF               | REF |                         |
| 58        | 58 | D-UA-M8012-0-0   |             | UNIT ASSEMBLY                    | REF               | REF |                         |
| 59        | 59 | D-CS-M8012-0-1   |             | CIRCUIT SCHEMATIC                | REF               | REF |                         |
| 60        | 60 | B-DD-M8012-0     |             | DRAWING DIRECTORY                | REF               | REF |                         |

61 NOTE: IF 1215006-06 IS NOT AVAILABLE USE 1210693

|   |   |   |   |   |   |   |       |                            |                |      |      |                 |     |
|---|---|---|---|---|---|---|-------|----------------------------|----------------|------|------|-----------------|-----|
| D | I | G | I | T | A | L | TITLE | BOOT-TERM & DIAGNOSTIC ROM | SECTION A OF A | SIZE | CODE | DOCUMENT NUMBER | REV |
|   |   |   |   |   |   |   |       |                            |                | K    | PL   | M8012-0-DBP     | H   |







| REVISIONS |            |     |
|-----------|------------|-----|
| CHK       | CHANGE NO. | REV |
|           |            |     |
|           |            |     |
|           |            |     |

|                                       |  |           |           |      |
|---------------------------------------|--|-----------|-----------|------|
| TITLE                                 |  | SIZE CODE | NUMBER    | REV. |
| BOOT-TERMINATOR & DIAGNOSTIC ROM(SH3) |  | D.C.S     | M8012-0-1 | H    |
| SCALE                                 |  | SHEET     | OF        |      |
| NONE                                  |  | 3         | 4         |      |
| DIST.                                 |  |           |           |      |



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|-----------------------------------------------------|-------------|--|--|--|--------|----------|----------------|-----------------|----------------|
| MAYNARD, MASSACHUSETTS                              |             |  |  |  |        |          |                |                 |                |
| ENGINEERING SPECIFICATION                           |             |  |  |  |        |          | DATE 27-May-77 |                 |                |
| TITLE M8012 TERM, BOOT AND DISGNOSTIC BOARD - M8012 |             |  |  |  |        |          |                |                 |                |
| REVISIONS                                           |             |  |  |  |        |          |                |                 |                |
| REV                                                 | DESCRIPTION |  |  |  | CHG NO | ORIG     | DATE           | APPD BY         | DATE           |
| A                                                   | ECO CHANGE  |  |  |  | 00001  | GOODRICH | 3-78           | <i>Goodrich</i> | <i>6/21/78</i> |

|     |                                |      |                 |      |      |           |     |
|-----|--------------------------------|------|-----------------|------|------|-----------|-----|
| ENG | <i>Goodrich</i><br>G. Goodrich | APPD | <i>Goodrich</i> | SIZE | CODE | NUMBER    | REV |
|     |                                |      |                 | A    | SP   | M8012-0-7 | A   |

# ENGINEERING SPECIFICATION

**CONTINUATION SHEET**

TITLE M8012 -- TERM, BOOT AND DIAGNOSTIC BOARD

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```

1.0      GENERAL DESCRIPTION
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        1.2      POWER REQUIREMENTS

2.0      ROM
        2.1      ROM
        2.2      ROM PAGES

3.0      BEVENT CLAMP (RTC DISABLE)
        3.1      GENERAL
        3.2      ADDRESS

4.0      MAINTENANCE REGISTERS
        4.1      READ WRITE REGISTER
        4.2      DISPLAY REGISTER
        4.3      SWITCH REGISTER

5.0      TERMINATION/PINOUT

6.0      POWER OK LED, RESTART AND HALT SWITCHES

7.0      ROM CODE

8.0      TEST JACKS

9.0      ROM ADDRESS MAP
        9.1      MASKED BOOT/DIAGNOSTIC ROM
        9.2      EFROM
        9.3      PROGRAM ROM
        9.4      ADDRESS JUMPERS

10.0     PROGRAM ROM/PROM JUMPERS

```

NOTE: THE LSI-11 BUS SPECIFICATION (DEC STD-160) IS REFERENCED BY AND SHALL BE CONSIDERED PART OF THIS SPECIFICATION

|  |                         |                   |                            |                        |
|--|-------------------------|-------------------|----------------------------|------------------------|
|  | <b>SIZE</b><br><b>A</b> | <b>CODE</b><br>SP | <b>NUMBER</b><br>M8012-0-7 | <b>REV</b><br><b>A</b> |
|--|-------------------------|-------------------|----------------------------|------------------------|

| ENGINEERING SPECIFICATION                                                                                                                             |                                                        | CONTINUATION SHEET |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------|---------------------|
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD                                                                                                         |                                                        |                    |                     |
| 1.0 GENERAL DESCRIPTION                                                                                                                               |                                                        |                    |                     |
| 1.1 DESCRIPTION                                                                                                                                       |                                                        |                    |                     |
| THE M8012 TERMINATOR, BOOTSTRAP AND DIAGNOSTIC BOARD IS A QUAD HEIGHT MODULE WHICH INTERFACES WITH THE LSI-11 BUS.IT PROVIDES THE FOLLOWING FEATURES: |                                                        |                    |                     |
| A)                                                                                                                                                    | ROM SPACE FOR BOOTSTRAP/DIAGNOSTIC AND OTHER PROGRAMS. |                    |                     |
| B)                                                                                                                                                    | A 12 BIT READABLE SWITCH REGISTER                      |                    |                     |
| C)                                                                                                                                                    | A 16 BIT READ WRITE REGISTER                           |                    |                     |
| D)                                                                                                                                                    | A PROGRAMABLE RTC ENABLE                               |                    |                     |
| E)                                                                                                                                                    | A POWER OK LED                                         |                    |                     |
| F)                                                                                                                                                    | A 4 LED DISPLAY REGISTER                               |                    |                     |
| G)                                                                                                                                                    | RESTART AND HALT SWITCHES                              |                    |                     |
| H)                                                                                                                                                    | 120 OHM LSI-11 BUS TERMINATION                         |                    |                     |
| 1.2 POWER REQUIREMENTS                                                                                                                                |                                                        |                    |                     |
|                                                                                                                                                       | TYPICAL                                                |                    | MAX                 |
| +5 VOLTS                                                                                                                                              | 1.25                                                   | 1.6                | AMPS                |
| +12 VOLTS                                                                                                                                             | 0.05                                                   | 0.07               | AMPS                |
| NOTE: POWER MUST BE ADDED FOR ANY ROMS USED.                                                                                                          |                                                        |                    |                     |
| SIZE<br>A                                                                                                                                             |                                                        | CODE<br>SP         | NUMBER<br>M8012-0-7 |
| REV<br>A                                                                                                                                              |                                                        |                    |                     |

DEC FORM NO EN-01022-16-N370-(381)  
DRA 108

SHEET 3 OF 10

| ENGINEERING SPECIFICATION                                                                                                                                                                                                        |  | CONTINUATION SHEET |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|---------------------|
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD                                                                                                                                                                                    |  |                    |                     |
| 2.0 ROM                                                                                                                                                                                                                          |  |                    |                     |
| 2.1 ROM                                                                                                                                                                                                                          |  |                    |                     |
| THE M8012 PROVIDES 2K WORDS OF MASKED ROM SOCKETS FOR BOOTSTRAPS AND DIAGNOSTICS WITH PADS FOR AN ADDITIONAL 2K WORDS FOR FUTURE USE.                                                                                            |  |                    |                     |
| IT ALSO PROVIDES SOCKETS FOR 4 2708 EPROMS (2K WORDS) AND PADS FOR 16 8316E/2716 (16K WORDS) ROM/EPROM. THESE PADS MAY BE USED FOR 2708 EPROMS (8K WORDS) BY CHANGING JUMPERS AND SUPPLYING -5 VOLT POWER THRU PINS CB2 AND DB2. |  |                    |                     |
| THE M8012-YA PROVIDES SOCKETS FOR THE ADDITIONAL 2K OF BOOT/DIAGNOSTIC ROMS AND FOR THE PROGRAM ROM/EPROM.                                                                                                                       |  |                    |                     |
| 2.2 ROM PAGES                                                                                                                                                                                                                    |  |                    |                     |
| ALL ROM IS ACCESED IN A PAGED FORMAT OF 2 128 WORD PAGES AT THE FOLLOWING BUS ADDRESSES                                                                                                                                          |  |                    |                     |
| 173000 TO 173377                                                                                                                                                                                                                 |  | LOW PAGE           |                     |
| 173400 TO 173777                                                                                                                                                                                                                 |  | HIGH PAGE          |                     |
| SIZE<br>A                                                                                                                                                                                                                        |  | CODE<br>SP         | NUMBER<br>M8012-0-7 |
| REV<br>A                                                                                                                                                                                                                         |  |                    |                     |

DEC FORM NO EN-01022-16-N370-(381)  
DRA 108

SHEET 4 OF 10

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-----|-------------------|-------------------|----------------|----------------|--------------------|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------------------|---------------------|----------|----------|----------|-----------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| ENGINEERING SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     | CONTINUATION SHEET |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                     |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| <p>TO CONTROL MAPPING OF THESE PAGES INTO PHYSICAL ROM ADDRESSES A PAGE CONTROL REGISTER IS USED AT BUS ADDRESS 177520. THIS REGISTER IS WORD OR BYTE ADDRESSABLE AND MAY BY READ OR WRITTEN AND IS CLEARED UPON THE NEGATION OF BDCOK.</p> <p>THE PHYSICAL ROM ADDRESS IS GENERATED BY LATCHING DAL1-DAL7 AT SYNC AS A0-A6 AND USING THE LOW OR HIGH BYTE OF THE PAGE REGISTER (DEPENDING IF BUS ADDRESS IS IN LOW OR HIGH PAGE) AS A7-A14. TWO ROMS ARE ACCESSED AT A TIME, ONE AS LOW BYTE AND ONE AS HIGH BYTE.</p> <p>NOTE THAT ANY PAGE IN PHYSICAL ROM MAY BE ACCESSED THROUGH THE LOW OR HIGH BUS PAGE.</p> <p>IF THE BUS ADDRESS IS BETWEEN:</p> <table><tr><td>173000 AND 173377</td><td>173400 AND 173777</td></tr><tr><td>ROM ADR=SOURCE</td><td>ROM ADR=SOURCE</td></tr><tr><td>A0= DAL1 (LATCHED)</td><td>A0= DAL1 (LATCHED)</td></tr><tr><td>A1= DAL2</td><td>A1= DAL2</td></tr><tr><td>A2= DAL3</td><td>A2= DAL3</td></tr><tr><td>A3= DAL4</td><td>A3= DAL4</td></tr><tr><td>A4= DAL5</td><td>A4= DAL5</td></tr><tr><td>A5= DAL6</td><td>A5= DAL6</td></tr><tr><td>A6= DAL7</td><td>A6= DAL7</td></tr><tr><td>A7= BIT0 (PAGE REG)</td><td>A7= BIT8 (PAGE REG)</td></tr><tr><td>A8= BIT1</td><td>A8= BIT9</td></tr><tr><td>A9= BIT2</td><td>A9= BIT10</td></tr><tr><td>A10= BIT3</td><td>A10= BIT11</td></tr><tr><td>A11= BIT4</td><td>A11= BIT12</td></tr><tr><td>A12= BIT5</td><td>A12= BIT13</td></tr><tr><td>A13= BIT6</td><td>A13= BIT14</td></tr><tr><td>A14= BIT7</td><td>A14= BIT15</td></tr></table> <p>WHERE PHYSICAL ROM ADDRESS BIT= SOURCE</p> |                     |                    |     | 173000 AND 173377 | 173400 AND 173777 | ROM ADR=SOURCE | ROM ADR=SOURCE | A0= DAL1 (LATCHED) | A0= DAL1 (LATCHED) | A1= DAL2 | A1= DAL2 | A2= DAL3 | A2= DAL3 | A3= DAL4 | A3= DAL4 | A4= DAL5 | A4= DAL5 | A5= DAL6 | A5= DAL6 | A6= DAL7 | A6= DAL7 | A7= BIT0 (PAGE REG) | A7= BIT8 (PAGE REG) | A8= BIT1 | A8= BIT9 | A9= BIT2 | A9= BIT10 | A10= BIT3 | A10= BIT11 | A11= BIT4 | A11= BIT12 | A12= BIT5 | A12= BIT13 | A13= BIT6 | A13= BIT14 | A14= BIT7 | A14= BIT15 |
| 173000 AND 173377                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 173400 AND 173777   |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| ROM ADR=SOURCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ROM ADR=SOURCE      |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A0= DAL1 (LATCHED)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | A0= DAL1 (LATCHED)  |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A1= DAL2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A1= DAL2            |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A2= DAL3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A2= DAL3            |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A3= DAL4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A3= DAL4            |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A4= DAL5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A4= DAL5            |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A5= DAL6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A5= DAL6            |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A6= DAL7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A6= DAL7            |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A7= BIT0 (PAGE REG)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | A7= BIT8 (PAGE REG) |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A8= BIT1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A8= BIT9            |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A9= BIT2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | A9= BIT10           |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A10= BIT3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A10= BIT11          |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A11= BIT4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A11= BIT12          |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A12= BIT5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A12= BIT13          |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A13= BIT6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A13= BIT14          |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A14= BIT7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A14= BIT15          |                    |     |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| SIZE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CODE                | NUMBER             | REV |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SP                  | M8012-0-7          | A   |                   |                   |                |                |                    |                    |          |          |          |          |          |          |          |          |          |          |          |          |                     |                     |          |          |          |           |           |            |           |            |           |            |           |            |           |            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |                    |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------|-----|
| ENGINEERING SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      | CONTINUATION SHEET |     |
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |                    |     |
| <p>3.0 BEVENT CLAMP (REAL TIME CLOCK DISABLE)</p> <p>3.1 GENERAL</p> <p>A SINGLE BIT WRITE ONLY REGISTER CLAMPS BEVENTL LOW WHEN CLEARED. THIS ALLOWS PROGRAM CONTROL OF THE LSI-11 LINE TIME CLOCK FUNCTION. REGISTER IS CLEARED UPON NEGATION OF BDCOK. THE M8012 MODULE MUST BE LOCATED IN THE BACKPLANE PROVIDING BEVENT FOR PROPER OPERATION OF THIS FUNCTION. IT MAY BE DISABLED BY SWITCH SELECTION. SWITCH #5 OF E21 DISABLES THIS FUNCTION WHEN OFF.</p> <p>3.2 ADDRESS</p> <p>177546 BIT 6 BEVENT CLAMPED WHEN CLEAR (RTC OFF)</p> <p>4.0 MAINTENANCE REGISTERS</p> <p>4.1 READ WRITE REGISTER</p> <p>A SIXTEEN BIT READ WRITE REGISTER IS PROVIDED AT ADDRESS 177522 FOR DIAGNOSTICS. THE REGISTER IS WORD OR BYTE ADDRESABLE AND IS CLEARED UPON NEGATION OF BDCOK.</p> <p>4.2 DISPLAY REGISTER</p> <p>A 4 BIT WRITE ONLY REGISTER AT ADDRESS 177524 CONTROLS A 4 LED EDGE MOUNTED RED DISPLAY USED FOR DIAGNOSTICS. BITS 0-3 CORESPOND TO D1 TO D4 WITH A SET BIT TURNING THE RESPECTIVE LED OFF. THE REGISTER IS CLEARED (ALL LEDS ON) UPON NEGATION OF BDCOK.</p> <p>4.3 SWITCH REGISTER</p> <p>A 12 BIT READ ONLY REGISTER AT ADDRESS 177524 IS USED FOR MAINTENANCE AND SYSTEM CONFIGURATION (BITS 0-11). NOTE THAT THIS ADDRESS IS SHARED WITH THE DISPLAY REGISTER. E15 SWITCHES 1-8 CORESPOND TO BITS 0-7 AND E21 SWITCHES 1-4 CORESPOND TO BITS 8-11 WITH A ON SWITCH READ AS A 1 AND AN OFF SWITCH AS A 0.</p> |      |                    |     |
| SIZE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CODE | NUMBER             | REV |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SP   | M8012-0-7          | A   |



|                                                                                                                                                                                                                                         |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------|----------|------|----------|-------|----|-----|-------|----|----|-----|----|-----|--------|
| ENGINEERING SPECIFICATION                                                                                                                                                                                                               |            | CONTINUATION SHEET  |          |      |          |       |    |     |       |    |    |     |    |     |        |
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD                                                                                                                                                                                           |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| 5.0 TERMINATION/PINOUT                                                                                                                                                                                                                  |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| ALL BUS LINES ARE TERMINATED BY A RESISTOR NETWORK OF 180 OHMS TO +5 AND 390 OHMS TO GND.                                                                                                                                               |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| THE PINOUT AND BUS DRIVER/RECEIVER CHARACTERISTICS COMPLY WITH THE LSI-11 BUS SPECIFICATION (DEC STD-160)                                                                                                                               |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| 6.0 POWER OK LED, RESTART AND HALT SWITCHES                                                                                                                                                                                             |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| A GREEN EDGE MOUNTED POWER OK LED IS PROVIDED AND IS LIGHTED WHEN +12 IS GREATER THAN 10 VOLTS AND +5 IS GREATER THAN 4V VOLTS.                                                                                                         |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| A EDGE MOUNTED SWITCH (S2) REBOOTS THE SYSTEM BY DEASSERTING BDCOK FOR A NOMINAL 2 USEC WHEN IT IS CYCLED BACK AND FORTH ONCE. A SECOND EDGE MOUNTED SWITH (S1) ASSERTS BHALT WHEN POSITIONED WITH ITS LEVER AWAY FROM THE LED DISPLAY. |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| 7.0 ROM CODE                                                                                                                                                                                                                            |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| SEE DIAGNOSTIC ENGINEERING DESIGN PLAN FOR THE BDV11-AA DIAGNOSTIC ROM, DIAGNOSTIC RETRIVAL NUMBER HP-046-10-S58 FOR BOOTSTRAPS/DIAGNOSTICS AND RESTRICTIONS ON EPROM AND PROGRAM ROM CODE                                              |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| 8.0 TEST POINTS                                                                                                                                                                                                                         |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| TIP JACKS ARE PROVIDED TO ALLOW MEASUREMENT OF THE 5 AND 12 VOLT POWER SUPPLIES. THE 5 AND 12 VOLT TEST JACKS HAVE A 560 OHM SERIES RESISTOR TO PREVENT DAMAGE BY ACCIDENTAL SHORTS.                                                    |            |                     |          |      |          |       |    |     |       |    |    |     |    |     |        |
| <table><tr><td>JACK</td><td>FUNCTION</td><td>COLOR</td></tr><tr><td>J1</td><td>GND</td><td>BLACK</td></tr><tr><td>J2</td><td>+5</td><td>RED</td></tr><tr><td>J3</td><td>+12</td><td>PURPLE</td></tr></table>                            |            |                     |          | JACK | FUNCTION | COLOR | J1 | GND | BLACK | J2 | +5 | RED | J3 | +12 | PURPLE |
| JACK                                                                                                                                                                                                                                    | FUNCTION   | COLOR               |          |      |          |       |    |     |       |    |    |     |    |     |        |
| J1                                                                                                                                                                                                                                      | GND        | BLACK               |          |      |          |       |    |     |       |    |    |     |    |     |        |
| J2                                                                                                                                                                                                                                      | +5         | RED                 |          |      |          |       |    |     |       |    |    |     |    |     |        |
| J3                                                                                                                                                                                                                                      | +12        | PURPLE              |          |      |          |       |    |     |       |    |    |     |    |     |        |
| SIZE<br>A                                                                                                                                                                                                                               | CODE<br>SP | NUMBER<br>M8012-0-7 | REV<br>A |      |          |       |    |     |       |    |    |     |    |     |        |

|                                                                                                                                                                                                                                                                        |            |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------|----------|-----------|----------|--------------------|---------|---------|----------------------|---------|---------|----------------------|-----|-----|----------------------|
| ENGINEERING SPECIFICATION                                                                                                                                                                                                                                              |            | CONTINUATION SHEET   |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD                                                                                                                                                                                                                          |            |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| 9.0 ROM ADDRESS MAP                                                                                                                                                                                                                                                    |            |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| SEE SECTION 9.4 FOR DESCRIPTION OF CHARACTERS USED TO BRACKET ADDRESSES IN 9.1 TO 9.3                                                                                                                                                                                  |            |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| 9.1 MASKED BOOT/DIAGNOSTIC ROM                                                                                                                                                                                                                                         |            |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| <table><tr><td>HIGH BYTE</td><td>LOW BYTE</td><td>CHIP ADDRESS</td></tr><tr><td>I I</td><td>I I</td><td>0-2K, (4K-6K)</td></tr><tr><td>I E53 I</td><td>I E48 I</td><td>BOOT/DIAG</td></tr><tr><td>I I</td><td>I I</td><td>[16K-18K], &lt;20K-22K&gt;</td></tr></table> |            |                      |          | HIGH BYTE | LOW BYTE | CHIP ADDRESS       | I I     | I I     | 0-2K, (4K-6K)        | I E53 I | I E48 I | BOOT/DIAG            | I I | I I | [16K-18K], <20K-22K> |
| HIGH BYTE                                                                                                                                                                                                                                                              | LOW BYTE   | CHIP ADDRESS         |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | 0-2K, (4K-6K)        |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I E53 I                                                                                                                                                                                                                                                                | I E48 I    | BOOT/DIAG            |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | [16K-18K], <20K-22K> |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| <table><tr><td>I I</td><td>I I</td><td>2K-4K, (6K-8K)</td></tr><tr><td>I E58 I</td><td>I E44 I</td><td>RESERVED</td></tr><tr><td>I I</td><td>I I</td><td>[18K-20K], &lt;22K-24K&gt;</td></tr></table>                                                                  |            |                      |          | I I       | I I      | 2K-4K, (6K-8K)     | I E58 I | I E44 I | RESERVED             | I I     | I I     | [18K-20K], <22K-24K> |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | 2K-4K, (6K-8K)       |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I E58 I                                                                                                                                                                                                                                                                | I E44 I    | RESERVED             |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | [18K-20K], <22K-24K> |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| 9.2 EPROM SOCKETS (INTERNAL -5V POWER)                                                                                                                                                                                                                                 |            |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| <table><tr><td>I I</td><td>I I</td><td>4K-5K, (0-1K)</td></tr><tr><td>I E57 I</td><td>I E40 I</td><td>&lt;16K-17K&gt;, [20K-21K]</td></tr><tr><td>I I</td><td>I I</td><td></td></tr></table>                                                                           |            |                      |          | I I       | I I      | 4K-5K, (0-1K)      | I E57 I | I E40 I | <16K-17K>, [20K-21K] | I I     | I I     |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | 4K-5K, (0-1K)        |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I E57 I                                                                                                                                                                                                                                                                | I E40 I    | <16K-17K>, [20K-21K] |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| <table><tr><td>I I</td><td>I I</td><td>5K-6K, (1K-2K)</td></tr><tr><td>I E52 I</td><td>I E36 I</td><td>&lt;17K-18K&gt;, [21K-22K]</td></tr><tr><td>I I</td><td>I I</td><td></td></tr></table>                                                                          |            |                      |          | I I       | I I      | 5K-6K, (1K-2K)     | I E52 I | I E36 I | <17K-18K>, [21K-22K] | I I     | I I     |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | 5K-6K, (1K-2K)       |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I E52 I                                                                                                                                                                                                                                                                | I E36 I    | <17K-18K>, [21K-22K] |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| 9.3 PROGRAM ROM/EPROM                                                                                                                                                                                                                                                  |            |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| <table><tr><td>I I</td><td>I I</td><td>16K-18K, !16K-17K!</td></tr><tr><td>I E54 I</td><td>I E49 I</td><td>:0-2K:, *0-1K*</td></tr><tr><td>I I</td><td>I I</td><td></td></tr></table>                                                                                  |            |                      |          | I I       | I I      | 16K-18K, !16K-17K! | I E54 I | I E49 I | :0-2K:, *0-1K*       | I I     | I I     |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | 16K-18K, !16K-17K!   |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I E54 I                                                                                                                                                                                                                                                                | I E49 I    | :0-2K:, *0-1K*       |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| <table><tr><td>I I</td><td>I I</td><td>18K-20K, !18K-19K!</td></tr><tr><td>I E59 I</td><td>I E45 I</td><td>:2K-4K:, *1K-2K*</td></tr><tr><td>I I</td><td>I I</td><td></td></tr></table>                                                                                |            |                      |          | I I       | I I      | 18K-20K, !18K-19K! | I E59 I | I E45 I | :2K-4K:, *1K-2K*     | I I     | I I     |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        | 18K-20K, !18K-19K!   |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I E59 I                                                                                                                                                                                                                                                                | I E45 I    | :2K-4K:, *1K-2K*     |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| I I                                                                                                                                                                                                                                                                    | I I        |                      |          |           |          |                    |         |         |                      |         |         |                      |     |     |                      |
| SIZE<br>A                                                                                                                                                                                                                                                              | CODE<br>SP | NUMBER<br>M8012-0-7  | REV<br>A |           |          |                    |         |         |                      |         |         |                      |     |     |                      |

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|-----------------------------------------------|-----------------------|------------------------------------------|----------|
| ENGINEERING SPECIFICATION                     |                       | CONTINUATION SHEET                       |          |
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD |                       |                                          |          |
| 9.2 PROGRAM ROM/EPROM CONTINUED               |                       |                                          |          |
| HIGH BYTE                                     | LOW BYTE              | CHIP ADDRESS                             |          |
| I I<br>I E60 I<br>I I                         | I I<br>I E41 I<br>I I | 20K-22K, !20K-21K!<br>:4K-6K!, *4K-5K*   |          |
| I I<br>I E55 I<br>I I                         | I I<br>I E37 I<br>I I | 22K-24K, !22K-23K!<br>:6K-8K!, *6K-7K*   |          |
| I I<br>I E51 I<br>I I                         | I I<br>I E38 I<br>I I | 24K-26K, !17K-18K!<br>:8K-10K!, *1K-2K*  |          |
| I I<br>I E47 I<br>I I                         | I I<br>I E42 I<br>I I | 26K-28K, !19K-20K!<br>:10K-12K!, *3K-4K* |          |
| I I<br>I E43 I<br>I I                         | I I<br>I E46 I<br>I I | 28K-30K, !21K-22K!<br>:12K-14K!, *5K-6K* |          |
| I I<br>I E39 I<br>I I                         | I I<br>I E50 I<br>I I | 30K-32K, !23K-24K!<br>:14K-16K!, *7K-8K* |          |
| SIZE<br>A                                     | CODE<br>SP            | NUMBER<br>M8012-0-7                      | REV<br>A |

DEC FORM NO EN-01022-16-N370-(381)  
DRA 108

SHEET 9 OF 10

|                                                                                                                                                                                                                                   |            |                     |          |           |     |              |     |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------|----------|-----------|-----|--------------|-----|-----|
| ENGINEERING SPECIFICATION                                                                                                                                                                                                         |            | CONTINUATION SHEET  |          |           |     |              |     |     |
| TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD                                                                                                                                                                                     |            |                     |          |           |     |              |     |     |
| 9.4 ADDRESS JUMPERS                                                                                                                                                                                                               |            |                     |          |           |     |              |     |     |
| THE CHARACTERS USED TO BRACKET VARIOUS ADDRESSES IN SECTIONS 9.1 TO 9.3 CORRESPOND TO THOSE IN THE TABLE BELOW. FOR EACH JUMPER COMBINATION LISTED BELOW A GIVEN CHIP WILL BE SELECTED AT THE ADDRESSES INDICATED BY THE BRACKETS |            |                     |          |           |     |              |     |     |
| CHAR                                                                                                                                                                                                                              | W1         | W2                  | W3       | W4        | W9  | W10          | W11 | W12 |
| NONE                                                                                                                                                                                                                              | R          | I                   | I        | R         | I   | R            | R   | I   |
| ( )                                                                                                                                                                                                                               | X          | X                   | X        | X         | I   | R            | I   | R   |
| [ ]                                                                                                                                                                                                                               | X          | X                   | X        | X         | R   | I            | R   | I   |
| < >                                                                                                                                                                                                                               | X          | X                   | X        | X         | R   | I            | I   | R   |
| ! !                                                                                                                                                                                                                               | I          | R                   | I        | R         | X   | X            | X   | X   |
| : :                                                                                                                                                                                                                               | R          | I                   | R        | I         | X   | X            | X   | X   |
| * *                                                                                                                                                                                                                               | I          | R                   | R        | I         | X   | X            | X   | X   |
| I=INSTALLED                                                                                                                                                                                                                       |            |                     |          | R=REMOVED |     | X=DON'T CARE |     |     |
| NOTE: JUMPERS MUST NOT BE CONFIGURED AND CHIPS INSTALLED SUCH THAT 2 CHIPS RESPOND TO THE SAME ADDRESS.                                                                                                                           |            |                     |          |           |     |              |     |     |
| 10.0 PROGRAM ROM/EPROM JUMPERS                                                                                                                                                                                                    |            |                     |          |           |     |              |     |     |
|                                                                                                                                                                                                                                   | W5         | W6                  | W7       | W8        | W13 |              |     |     |
| 8316E                                                                                                                                                                                                                             | I          | R                   | I        | R         | R   | NOTE 1       |     |     |
| 8316E                                                                                                                                                                                                                             | R          | R                   | I        | R         | I   | NOTE 2       |     |     |
| 2716                                                                                                                                                                                                                              | R          | R                   | I        | R         | I   | NOTE 3       |     |     |
| 2708                                                                                                                                                                                                                              | R          | I                   | R        | I         | R   | NOTE 4       |     |     |
| NOTES:                                                                                                                                                                                                                            |            |                     |          |           |     |              |     |     |
| (1) CS1=0, CS2=0, CS3=0                                                                                                                                                                                                           |            |                     |          |           |     |              |     |     |
| (2) CS1=0, CS2=0, CS3=1                                                                                                                                                                                                           |            |                     |          |           |     |              |     |     |
| (3) +5 VOLT ONLY PARTS                                                                                                                                                                                                            |            |                     |          |           |     |              |     |     |
| (4) 2708 WITH EXTERNAL -5 SUPPLIED BY CB2 & DB2.                                                                                                                                                                                  |            |                     |          |           |     |              |     |     |
| SIZE<br>A                                                                                                                                                                                                                         | CODE<br>SP | NUMBER<br>M8012-0-7 | REV<br>A |           |     |              |     |     |

DEC FORM NO EN-01022-16-N370-(381)  
DRA 108

SHEET 10 OF 10



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Print Set Part Number **MP-** MP00487

|                  |  |      |              |      |                                 |            |                  |            |                    |           |                 |
|------------------|--|------|--------------|------|---------------------------------|------------|------------------|------------|--------------------|-----------|-----------------|
| REVISION HISTORY |  | REV. | ECO NUMBER   | DATE | DRN.                            | DATE       | TITLE            |            | digital            |           | CO<br>SIZE<br>B |
|                  |  | A    | BALL-N-ML007 |      | J. KALAGHER                     | 5 SEPT 77  | BALL-N PRINT SET |            |                    |           |                 |
|                  |  |      |              |      | J. KALAGHER                     | 5 SEPT 77  |                  |            |                    |           |                 |
|                  |  |      |              |      | J. KALAGHER                     | 9 SEPT 77  |                  |            |                    |           |                 |
|                  |  |      |              |      | J. KALAGHER                     | 20 SEPT 77 |                  |            |                    |           |                 |
|                  |  |      |              |      | J. KALAGHER                     | 20 SEPT 77 | DOCUMENT NUMBER  |            |                    |           |                 |
|                  |  |      |              |      | H.C. JANKE                      | 20 SEPT 77 | SIZE<br>B        | CODE<br>TC | NUMBER<br>BALL-N-1 | REV.<br>A |                 |
|                  |  |      |              |      | NEXT HIGHER DOC.<br>B-DD-BALL-N |            |                  |            | SHEET 1 OF 1       |           |                 |

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FOR FIELD MAINTENANCE PRINT SET SEE B-TC-BALL-N-1

## UNIT VARIATIONS

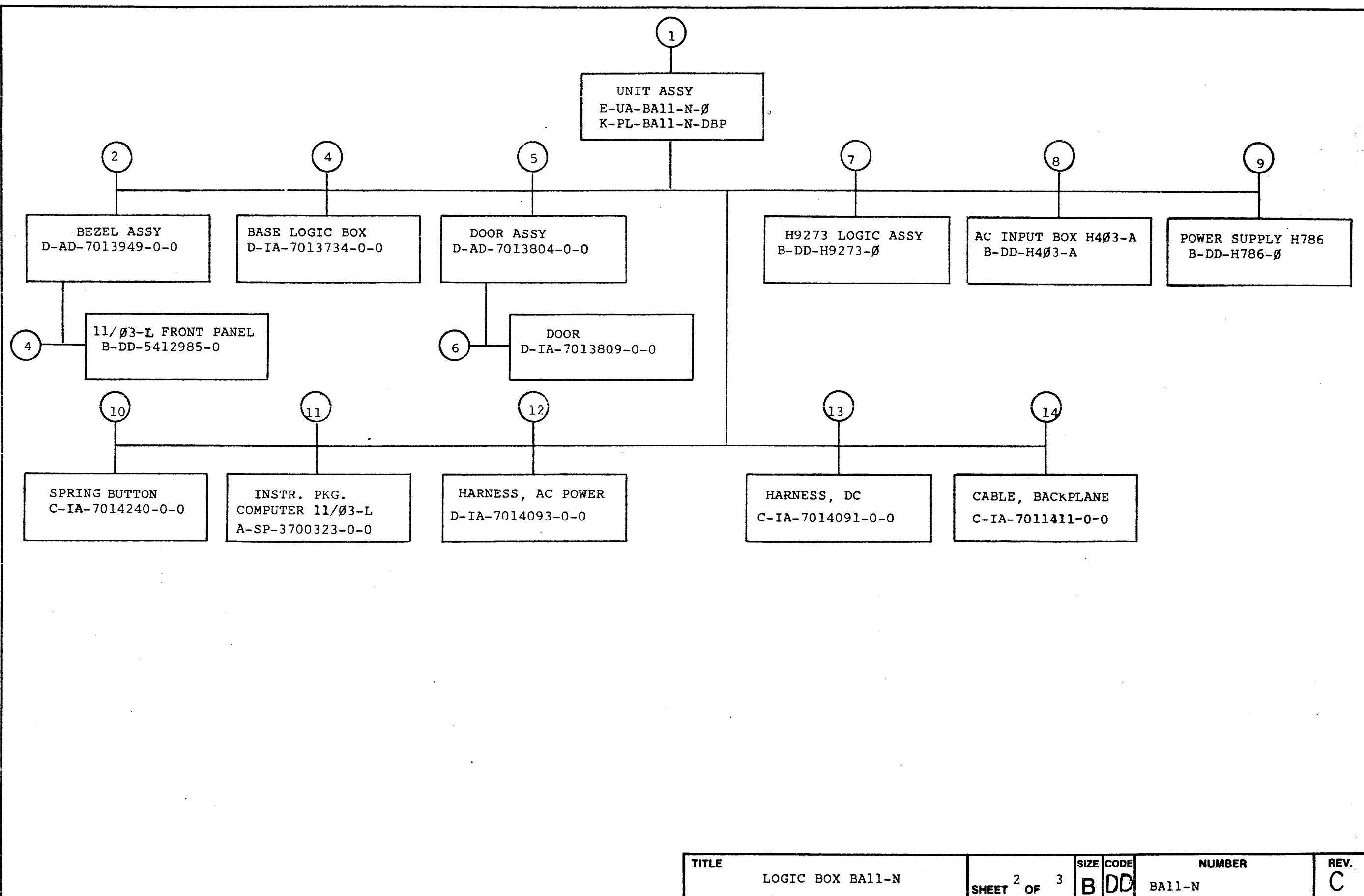
[illegible]

|           |    |              |      |
|-----------|----|--------------|------|
| REVISIONS |    | CHANGE NO.   | REV. |
| CHK       | 62 | BALL-N-ML007 | C    |

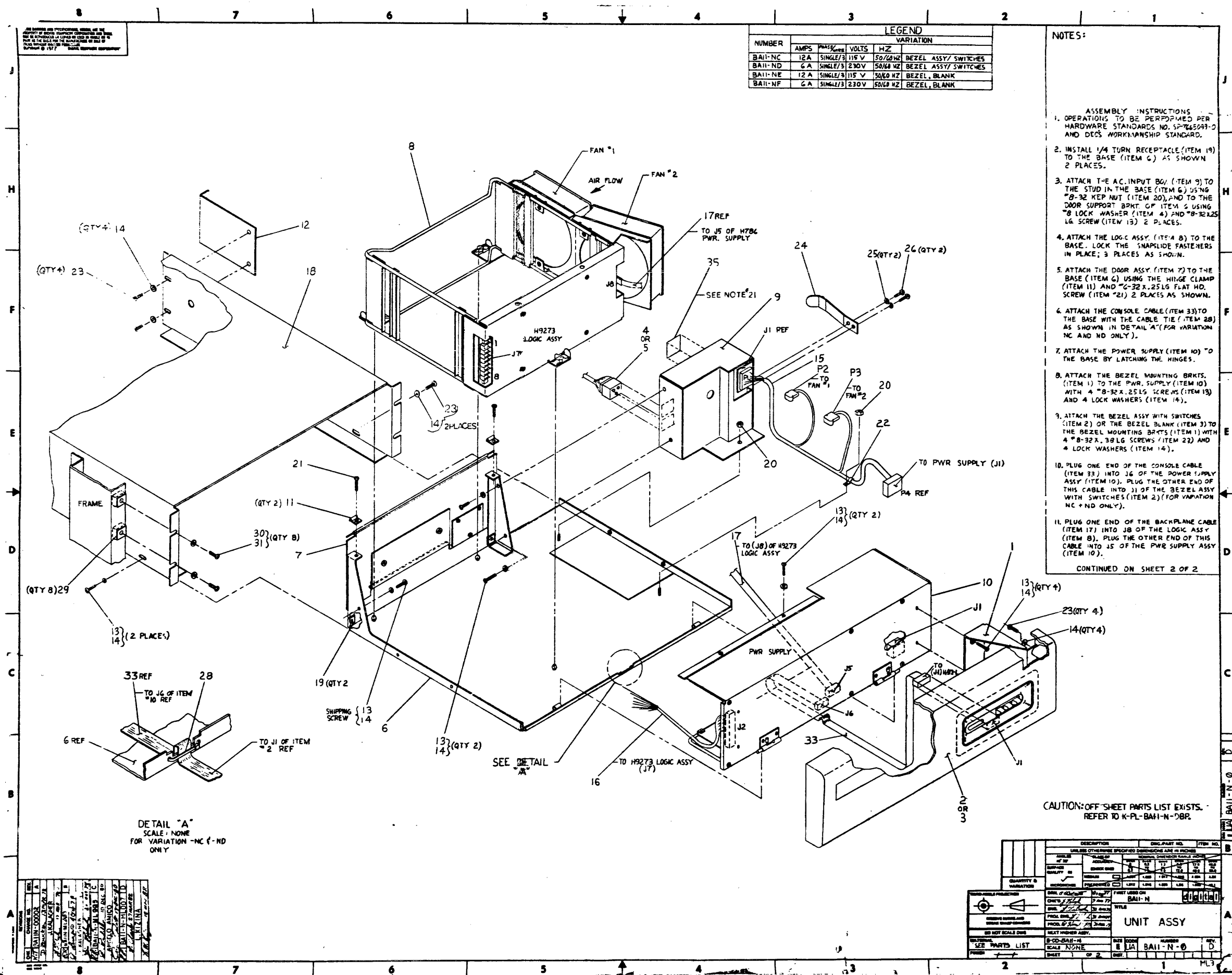
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|----------------------|------------------------|----------------|--------------|----------------------|--|--|--|--|--|--|--|--|--|
| USED ON OPTION/MODEL | DRN.                   | DATE           | TITLE        |                      |  |  |  |  |  |  |  |  |  |
|                      | B. BLOGETT             | 2MAY77         |              |                      |  |  |  |  |  |  |  |  |  |
|                      | CHK'D.<br>J. FALKOWSKI | DATE<br>2MAY77 |              |                      |  |  |  |  |  |  |  |  |  |
|                      |                        | PROJ. ENG.     | DATE         | SIZE CODE NUMBER REV |  |  |  |  |  |  |  |  |  |
|                      |                        | J. KALAGHER    | 9 SEPT<br>77 |                      |  |  |  |  |  |  |  |  |  |
|                      |                        | PROD.          | DATE         | DIST.                |  |  |  |  |  |  |  |  |  |
|                      |                        | R. HAMILTON    | 9 SEPT<br>77 |                      |  |  |  |  |  |  |  |  |  |
| SHEET 1 OF 3         |                        |                |              |                      |  |  |  |  |  |  |  |  |  |

|                  |  |    |  |        |  |  |  |   |  |
|------------------|--|----|--|--------|--|--|--|---|--|
| BALL-N LOGIC BOX |  |    |  |        |  |  |  |   |  |
| B                |  | DD |  | BALL-N |  |  |  | C |  |

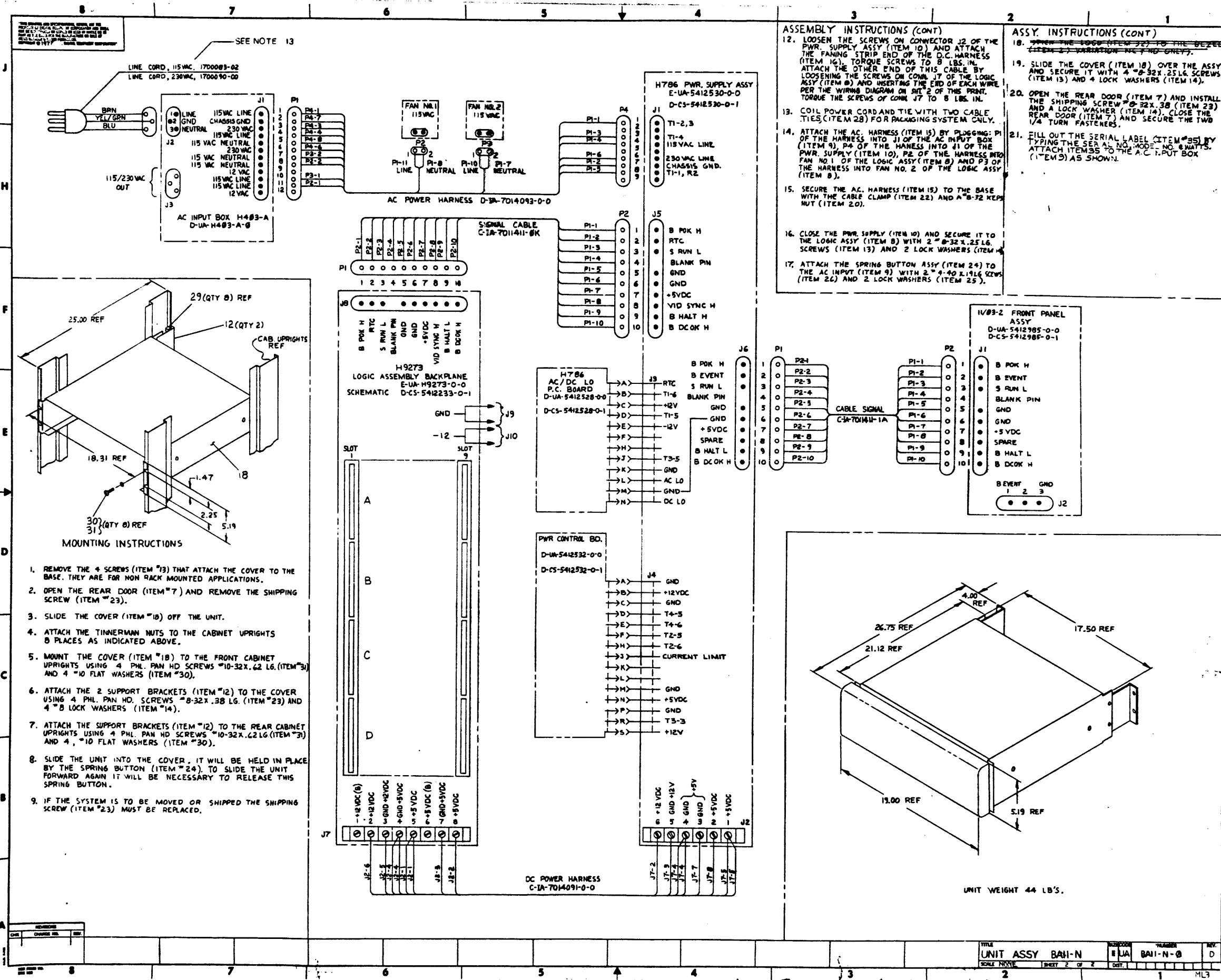
digital





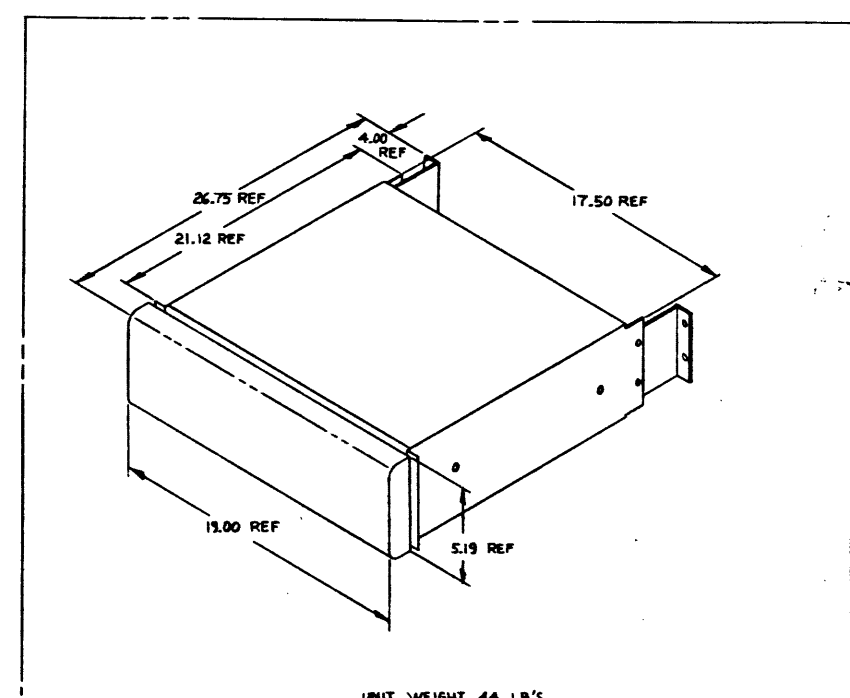
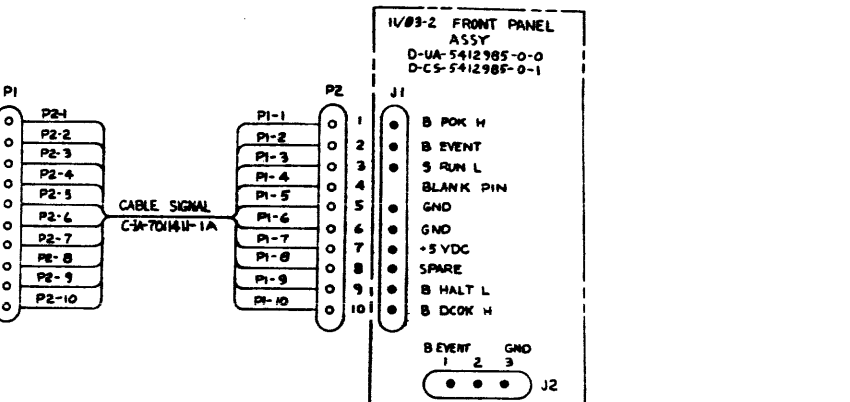




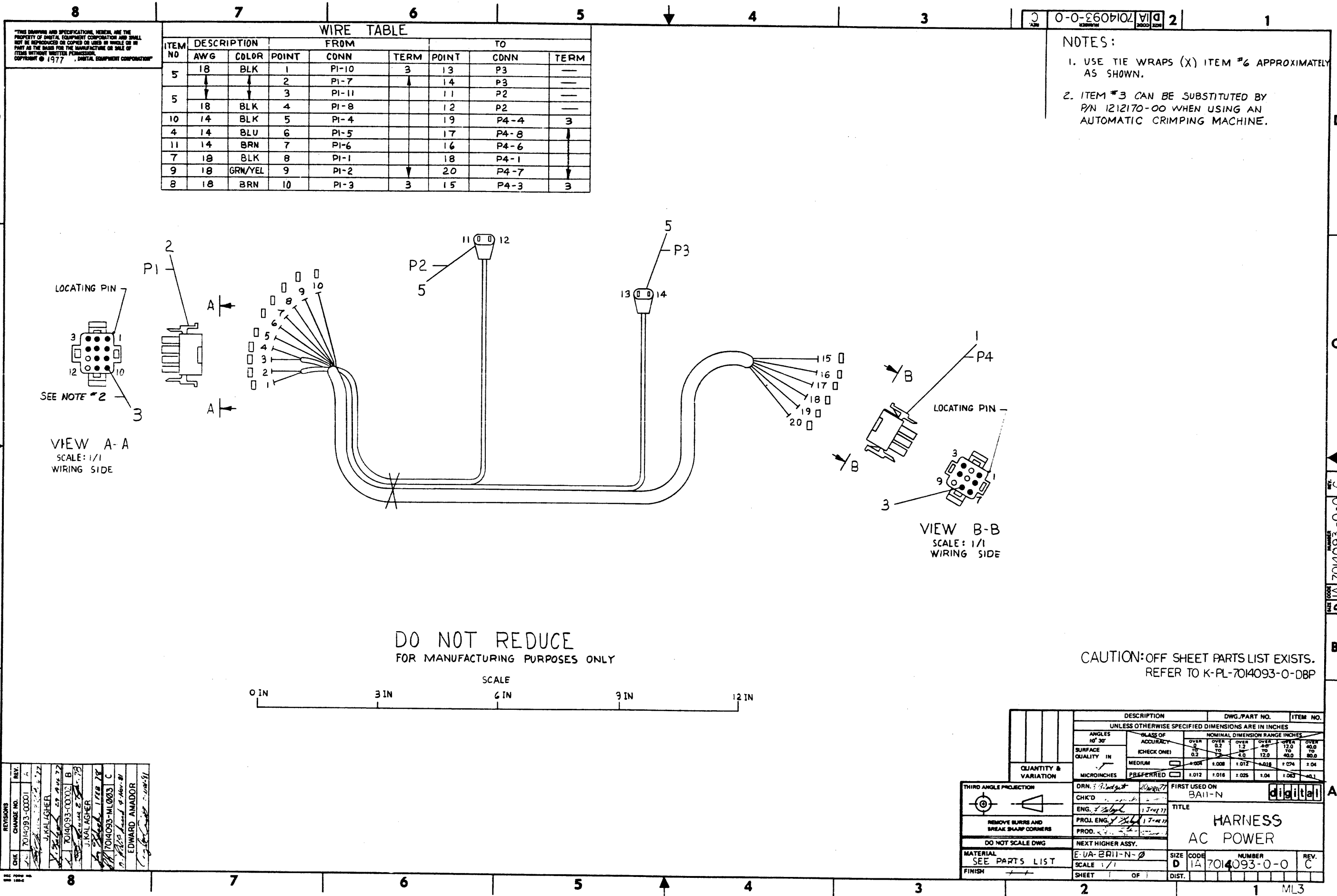


- MOUNTING INSTRUCTIONS**
1. REMOVE THE 4 SCREWS (ITEM #13) THAT ATTACH THE COVER TO THE BASE. THEY ARE FOR NON RACK MOUNTED APPLICATIONS.
  2. OPEN THE REAR DOOR (ITEM #7) AND REMOVE THE SHIPPING SCREW (ITEM #23).
  3. SLIDE THE COVER (ITEM #10) OFF THE UNIT.
  4. ATTACH THE TINNEMAN NUTS TO THE CABINET UPRIGHTS 8 PLACES AS INDICATED ABOVE.
  5. MOUNT THE COVER (ITEM #10) TO THE FRONT CABINET UPRIGHTS USING 4 PHL. PAN HD SCREWS #10-32X.62 LG. (ITEM #3) AND 4 #10 FLAT WASHERS (ITEM #30).
  6. ATTACH THE 2 SUPPORT BRACKETS (ITEM #12) TO THE COVER USING 4 PHL. PAN HD. SCREWS #8-32X.38 LG. (ITEM #23) AND 4 #8 LOCK WASHERS (ITEM #14).
  7. ATTACH THE SUPPORT BRACKETS (ITEM #12) TO THE REAR CABINET UPRIGHTS USING 4 PHL. PAN HD SCREWS #10-32X.62 LG (ITEM #3) AND 4 #10 FLAT WASHERS (ITEM #30).
  8. SLIDE THE UNIT INTO THE COVER. IT WILL BE HELD IN PLACE BY THE SPRING BUTTON (ITEM #24). TO SLIDE THE UNIT FORWARD AGAIN IT WILL BE NECESSARY TO RELEASE THIS SPRING BUTTON.
  9. IF THE SYSTEM IS TO BE MOVED OR SHIPPED THE SHIPPING SCREW (ITEM #23) MUST BE REPLACED.

- ASSEMBLY INSTRUCTIONS (CONT)**
12. LOOSEN THE SCREWS ON CONNECTOR J2 OF THE PWR. SUPPLY ASSY (ITEM 10) AND ATTACH THE FANING STRIP END OF THE D.C. HARNESS (ITEM 16). TORQUE SCREWS TO 8 LBS. IN. ATTACH THE OTHER END OF THIS CABLE BY LOOSENING THE SCREWS ON CONN. J7 OF THE LOGIC ASSY (ITEM 8) AND INSERTING THE END OF EACH WIRE PER THE WIRING DIAGRAM ON INT. 2 OF THIS PRINT. TORQUE THE SCREWS OF CONN. J7 TO 8 LBS. IN.
  13. COIL POWER CORD AND TIE WITH TWO CABLE TIES (ITEM 28) FOR PACKAGING SYSTEM ONLY.
  14. ATTACH THE AC HARNESS (ITEM 15) BY PLUGGING: P1 OF THE HARNESS INTO J1 OF THE AC INPUT BOX (ITEM 9), P4 OF THE HARNESS INTO J1 OF THE PWR. SUPPLY (ITEM 10), P2 OF THE HARNESS INTO FAN NO. 1 OF THE LOGIC ASSY (ITEM 8) AND P3 OF THE HARNESS INTO FAN NO. 2 OF THE LOGIC ASSY (ITEM 8).
  15. SECURE THE AC HARNESS (ITEM 15) TO THE BASE WITH THE CABLE CLAMP (ITEM 22) AND A #8-32 KEPS NUT (ITEM 20).
  16. CLOSE THE PWR. SUPPLY (ITEM 10) AND SECURE IT TO THE LOGIC ASSY (ITEM 8) WITH 2 #8-32X.25 LG. SCREWS (ITEM 13) AND 2 LOCK WASHERS (ITEM 14).
  17. ATTACH THE SPRING BUTTON ASSY (ITEM 24) TO THE AC INPUT (ITEM 9) WITH 2 #4-40X.19 LG SCWS (ITEM 26) AND 2 LOCK WASHERS (ITEM 25).
- ASSY. INSTRUCTIONS (CONT)**
18. ~~REMOVE THE SCREW (ITEM 23) TO THE COVER~~ (ITEM 23) VARIATION KEY NO. ONE.
  19. SLIDE THE COVER (ITEM 10) OVER THE ASSY. AND SECURE IT WITH 4 #8-32X.25 LG. SCREWS (ITEM 13) AND 4 LOCK WASHERS (ITEM 14).
  20. OPEN THE REAR DOOR (ITEM 7) AND INSTALL THE SHIPPING SCREW #8-32X.38 (ITEM 23) AND A LOCK WASHER (ITEM 14). CLOSE THE REAR DOOR (ITEM 7) AND SECURE THE TWO 1/4 TURN FASTENERS.
  21. FILL OUT THE SERIAL LABEL (ITEM #35) BY TYPING THE SERIAL NO. MODE NO. & WATTS. ATTACH ITEMS 35 TO THE A.C. INPUT BOX (ITEM 9) AS SHOWN.



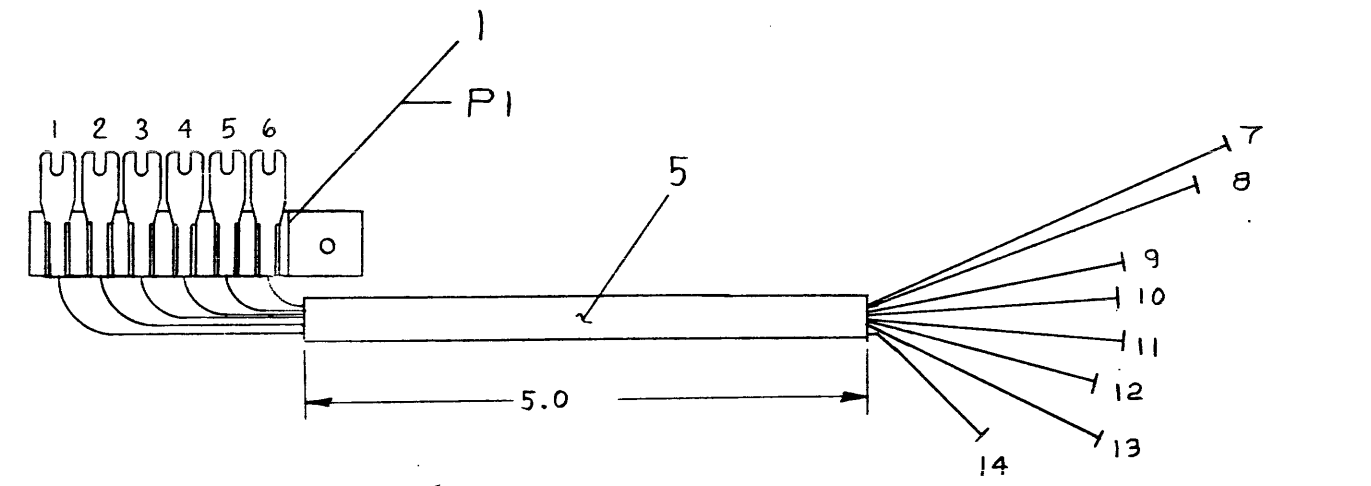
| DIGITAL EQUIPMENT CORPORATION<br>PARTS LIST |                             |                                               |                                | QUANTITY / VARIATION |              |              |              |  |  |  |  |  |  |  |  | NOTES: |                 |  |  |
|---------------------------------------------|-----------------------------|-----------------------------------------------|--------------------------------|----------------------|--------------|--------------|--------------|--|--|--|--|--|--|--|--|--------|-----------------|--|--|
| MADE BY <i>B. Blodgett</i><br>DATE 3 MAY 77 |                             | CHECKED <i>J. Kaley</i><br>DATE 9 AUG 77      |                                | SECTION              |              |              |              |  |  |  |  |  |  |  |  |        |                 |  |  |
| ENG <i>J. Kaley</i><br>DATE 31 AUG 77       |                             | PROD <i>R. Hamilton JTX</i><br>DATE 31 AUG 77 |                                | ISSUED SECTION       |              |              |              |  |  |  |  |  |  |  |  |        |                 |  |  |
| ITEM NO.                                    | DRAWING NO.                 | PART NO.                                      | DESCRIPTION                    | BA11-NC              | BA11-ND      | BA11-NE      | BA11-NF      |  |  |  |  |  |  |  |  |        | REF DESIGNATION |  |  |
| 1                                           | C-MD-7418573-0-0            |                                               | BRKT. BEZEL MTG.               | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 2                                           | D-AD-7013949-0-0            |                                               | BEZEL ASSY WITH SWITCHES       | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 3                                           | E-MD-7415313-02             |                                               | BEZEL BLANK                    | -                    | -            | -            | -            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 4                                           |                             | 17-00083-02                                   | LINE CORD (115V) USA           | 1                    | -            | 1            | -            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 5                                           |                             | 17-00090-00                                   | LINE CORD (250V) USA           | -                    | 1            | -            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 6                                           | D-IA-7013734-0-0            |                                               | BASE, LOGIC BOX                | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 7                                           | D-AD-7013804-0-0            |                                               | DOOR ASSY                      | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 8                                           | E-UA-H9273-0-0              |                                               | LOGIC ASSY (H9273)             | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 9                                           | D-UA-H403-A-0               |                                               | AC INPUT BOX (H403-A)          | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 10                                          | D-UA-H786-0-0               |                                               | PWR. SUPPLY ASSY (H786)        | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 11                                          | C-MD-7418384-0-0            |                                               | CLAMP, HINGE                   | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 12                                          | C-IA-7418276-0-0            |                                               | BRKT, SUPPORT                  | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 13                                          |                             | 90-06035 -01                                  | SCR. PHL HD PAN #8-32X.25      | 11                   | 11           | 11           | 11           |  |  |  |  |  |  |  |  |        |                 |  |  |
| 14                                          |                             | 90-06634-00                                   | WASHER, LOCK #8                | 21                   | 21           | 21           | 21           |  |  |  |  |  |  |  |  |        |                 |  |  |
| 15                                          | D-IA-7014093-0-0            |                                               | HARNESS AC POWER               | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 16                                          | C-IA-7014091-0-0            |                                               | HARNESS DC                     | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 17                                          | C-IA-7011411-0K             |                                               | CABLE BACKPLANE                | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 18                                          | E-IA-7418275-0-0            |                                               | COVER, LOGIC BOX               | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 19                                          |                             | 90-08196-00                                   | RECEPTACLE 1/4 TURN            | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 20                                          |                             | 90-06563-00                                   | NUT, KEPS #8-32                | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 21                                          |                             | 90-08404-02                                   | SCR. PHL HD FLAT #6-32X.31     | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 22                                          |                             | 90-07082-00                                   | CABLE CLAMP .31 DIA.           | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 23                                          |                             | 90-06037-01                                   | SCR. PHL HD PAN #8-32X.38      | 10                   | 10           | 10           | 10           |  |  |  |  |  |  |  |  |        |                 |  |  |
| 24                                          | C-IA-7014240-0-0            |                                               | SPRING, BUTTON ASSY            | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 25                                          |                             | 90-06632-00                                   | WASHER, LOCK INT. TOOTH #4     | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 26                                          |                             | 90-08032-01                                   | SCREW PHL HD PAN #4-40X.19     | 2                    | 2            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 27                                          |                             | 3613210-00                                    | LABEL SERIAL                   | 1                    | 1            | 1            | 1            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 28                                          |                             | 90-07880-00                                   | TIE, CABLE SST 1.5 M           | 3                    | 3            | 2            | 2            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 29                                          |                             | 90-07786-00                                   | NUT TINNEMAN #10-32            | 8                    | 8            | 8            | 8            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 30                                          |                             | 90-07651-00                                   | WASHER LOCK EXT. TOOTH #10     | 8                    | 8            | 8            | 8            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 31                                          |                             | 90-06073-03                                   | SCR. PHL TRUSS HD. #10-32 X 50 | 8                    | 8            | 8            | 8            |  |  |  |  |  |  |  |  |        |                 |  |  |
| 32                                          | <del>C-MD-7419481-0-0</del> |                                               | <del>LOGO POP H/03-L</del>     | <del>1</del>         | <del>1</del> | <del>-</del> | <del>-</del> |  |  |  |  |  |  |  |  |        |                 |  |  |
| 33                                          | C-IA-7011411-IA             |                                               | CABLE CONSOLE                  | 1                    | 1            | -            | -            |  |  |  |  |  |  |  |  |        |                 |  |  |



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| WIRE TABLE |             |       |       |       |        |       |           |           |
|------------|-------------|-------|-------|-------|--------|-------|-----------|-----------|
| ITEM NO    | DESCRIPTION |       | FROM  |       |        | TO    |           |           |
|            | AWG         | COLOR | POINT | CONN. | TERM   | POINT | CONN(REF) | TERM(REF) |
| 3          | 14          | RED   | —     | PI-1  | SOLDER | 9     | J7        | 5         |
| 3          | ↑           | RED   | —     |       |        | 11    | ↑         | 5         |
| 3          |             | RED   | —     | PI-2  | ↑      | 7     |           | 8         |
| 2          |             | BLK   | —     | PI-3  |        | 8     |           | 7         |
| ↑          |             | BLK   | —     | PI-4  |        | 10    |           | 4         |
| ↓          |             | BLK   | —     |       |        | 13    |           | 4         |
| 2          | ↓           | BLK   | —     | PI-5  | ↓      | 12    | ↓         | 3         |
| 4          | 14          | VIO   | —     | PI-6  | SOLDER | 14    | J7        | 2         |

NOTES:  
1. STRIP INSULATION BACK .38 INCH. POINTS 7-14



DO NOT REDUCE

FOR MANUFACTURING PURPOSES ONLY

|     |                                |            |   |
|-----|--------------------------------|------------|---|
| A/R | TUBING EXTRUDED .375 I.D.      | 9107245-00 | 5 |
| A/R | WIRE, #14 AWG STRD (VIO)       | 9107370-77 | 4 |
| A/R | WIRE, #14 AWG STRD (RED)       | 9107370-22 | 3 |
| A/R | WIRE, #14 AWG STRD (BLK)       | 9107370-00 | 2 |
| 1   | STRIP, CONNECTOR, (6 POSITION) | 1212698-00 | 1 |

|                                                     |   |                                     |                                |                          |                          |                          |                          |                           |
|-----------------------------------------------------|---|-------------------------------------|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
|                                                     |   | DESCRIPTION                         |                                | DWG./PART NO.            |                          | ITEM NO.                 |                          |                           |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES |   |                                     |                                |                          |                          |                          |                          |                           |
| ANGLES<br>±0° 30'                                   |   | CLASS OF<br>ACCURACY<br>(CHECK ONE) | NOMINAL DIMENSION RANGE INCHES |                          |                          |                          |                          |                           |
| SURFACE<br>QUALITY<br>IN                            | ✓ |                                     | OVER<br>0<br>TO<br>0.2         | OVER<br>0.2<br>TO<br>0.5 | OVER<br>0.5<br>TO<br>1.0 | OVER<br>1.0<br>TO<br>2.0 | OVER<br>2.0<br>TO<br>4.0 | OVER<br>4.0<br>TO<br>80.0 |
|                                                     |   | MEDIUM <input type="checkbox"/>     | ±.004                          | ±.008                    | ±.012                    | ±.016                    | ±.024                    | ±.04                      |
| QUANTITY &<br>VARIATION                             |   | PREFERRED <input type="checkbox"/>  | ±.012                          | ±.016                    | ±.025                    | ±.04                     | ±.063                    | ±.1                       |
|                                                     |   | MICROINCHES                         |                                |                          |                          |                          |                          |                           |

|                                      |                                          |               |               |
|--------------------------------------|------------------------------------------|---------------|---------------|
| THIRD ANGLE PROJECTION               | DRN. <i>B. B. Dodge</i> 12 Apr 77        | FIRST USED ON | BA11-N        |
| REMOVE BURRS AND BREAK SHARP CORNERS | CHK'D <i>J. F. Felt</i> 20 Apr 77        | TITLE         | HARNESS, D.C. |
| DO NOT SCALE DWG                     | ENG. <i>J. Kalagher</i> 17 June 77       |               |               |
| MATERIAL<br>SEE PARTS LIST           | PROJ. ENG. <i>J. Kalagher</i> 17 June 77 | SIZE          | CODE          |
| FINISH <i>++</i>                     | PROD. <i>R. Hamilton</i> 15 June 77      | C             | IA            |
|                                      | NEXT HIGHER ASSY.                        | NUMBER        | 7014091-0-0   |
|                                      | E-UA-BA11-N-0                            | REV.          | B             |
|                                      | SCALE 1/1                                |               |               |
|                                      | SHEET 1 OF 1                             |               |               |

| REVISIONS |            | REV. | DATE      | BY           | APP. |
|-----------|------------|------|-----------|--------------|------|
| CHK       | CHANGE NO. | A    | 17 Apr 77 | J. KALAGHER  |      |
|           |            | B    | 19 Dec 77 | STEVE KITTLE |      |
|           |            |      | 22 Dec 77 | J. KALAGHER  |      |

MANUFACTURE P-1085

DEC FORM NO. 100-C

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## UNIT VARIATIONS

[illegible]

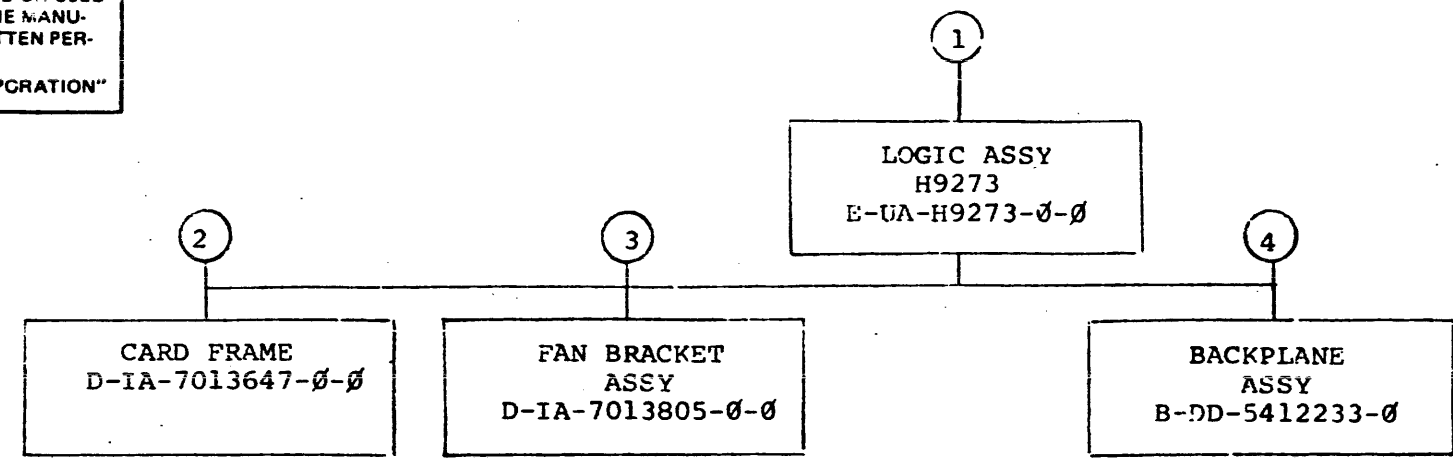
| REVISIONS |            | REV. | A |
|-----------|------------|------|---|
| CHK       | CHANGE NO. |      | B |
| J A       | H9273-1    |      |   |
| E R       | H9273-2    |      |   |
|           |            |      |   |

| USED ON OPTION/MODEL |  | DRN.                           | DATE              | TITLE               |
|----------------------|--|--------------------------------|-------------------|---------------------|
| H9273                |  | V. SOUZA                       | 22 APR 77         | LOGIC ASSY<br>H9273 |
|                      |  | CHK'D.<br><i>J. Salkowski</i>  | DATE<br>2 MAY 77  |                     |
|                      |  | PROJ. ENG.<br><i>J. Salgey</i> | DATE<br>9 SEPT 77 |                     |
|                      |  | PROD.<br><i>R Hamilton</i>     | DATE<br>9 OCT 77  |                     |
| SHEET 1 OF 3         |  |                                |                   |                     |

| SIZE  | CODE | NUMBER  | REV |
|-------|------|---------|-----|
| B     | DD   | H9273-D | B   |
| DIST. |      |         |     |

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REV. B DD H9273-0  
NUMBER



| TITLE            | SHEET 2 OF 3 | SIZE CODE | NUMBER  | REV |
|------------------|--------------|-----------|---------|-----|
| LOGIC ASSY H9273 |              | B DD      | H9273-0 | B   |

| FIND NO. | DRAWING NO.      | DESCRIPTION                       | TYPE |
|----------|------------------|-----------------------------------|------|
| 1        | E-UA-H9273-Ø-Ø   | LOGIC ASSY H9273                  | M    |
|          | D-IA-7418122-Ø-Ø | BRACKET, BACKPLANE                | M    |
|          | 3615517-Ø-Ø      | DECAL, IDENTIFICATION             | M    |
|          | A-SP-3700384-0-0 | PACKAGING INSTRUCTIONS            | M    |
| 2        | D-IA-7013647-Ø-Ø | CARD FRAME                        | M    |
|          | C-MD-7418393-Ø-Ø | RAIL, BOTTOM                      | M    |
|          | C-MD-7418392-Ø-Ø | PAD, FAN SUPPORT                  | M    |
|          | C-MD-7418391-Ø-Ø | PAD, SLIDE FASTENER               | M    |
|          | C-MD-7418390-Ø-Ø | SUPPORT GUIDE UPPER               | M    |
|          | C-MD-7418389-Ø-Ø | SUPPORT GUIDE                     | M    |
|          | C-IA-7418388-Ø-Ø | PAD, FRAME MTG.                   | M    |
|          | C-MD-7418547-Ø-Ø | RAIL, TOP                         | M    |
| 3        | D-IA-7013805-Ø-Ø | BRACKET ASSY, FAN                 | M    |
|          | E-IA-7418123-Ø-Ø | BRACKET, FAN                      | M    |
|          | C-MD-7418432-Ø-Ø | BAFFLE                            | M    |
| 4        | B-DD-5412233-Ø   | BACKPLANE ASSY, DRAWING DIRECTORY | -    |

| FIND NO. | DRAWING NO.     | DESCRIPTION               | TYPE |
|----------|-----------------|---------------------------|------|
|          | A-PI.-H9273-A-2 | SHIPPING LIST             |      |
|          | E-TC-H9273-A-1  | TABLE OF CONTENTS MPØØ67Ø |      |

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL

DRB 108A

digital

TITLE LOGIC ASSY H9273

SHEET 3 OF 3

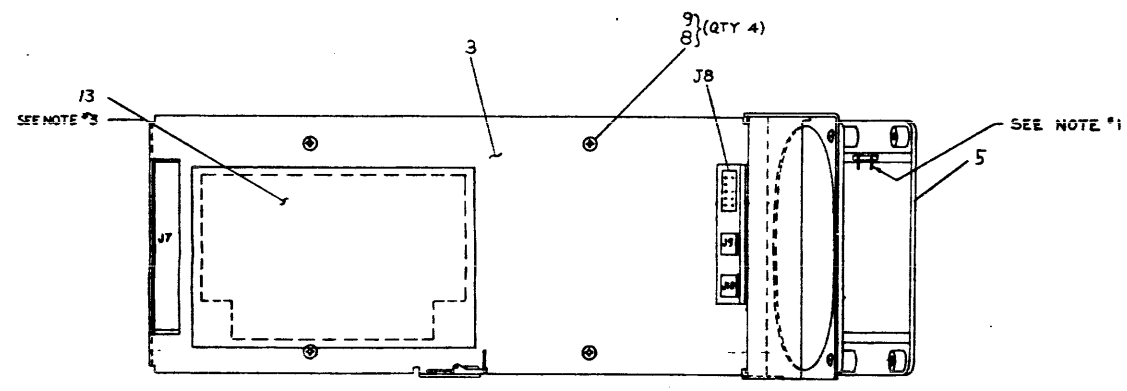
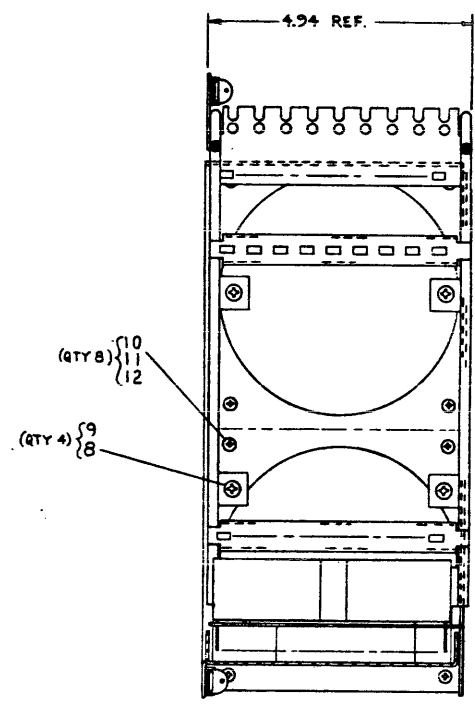
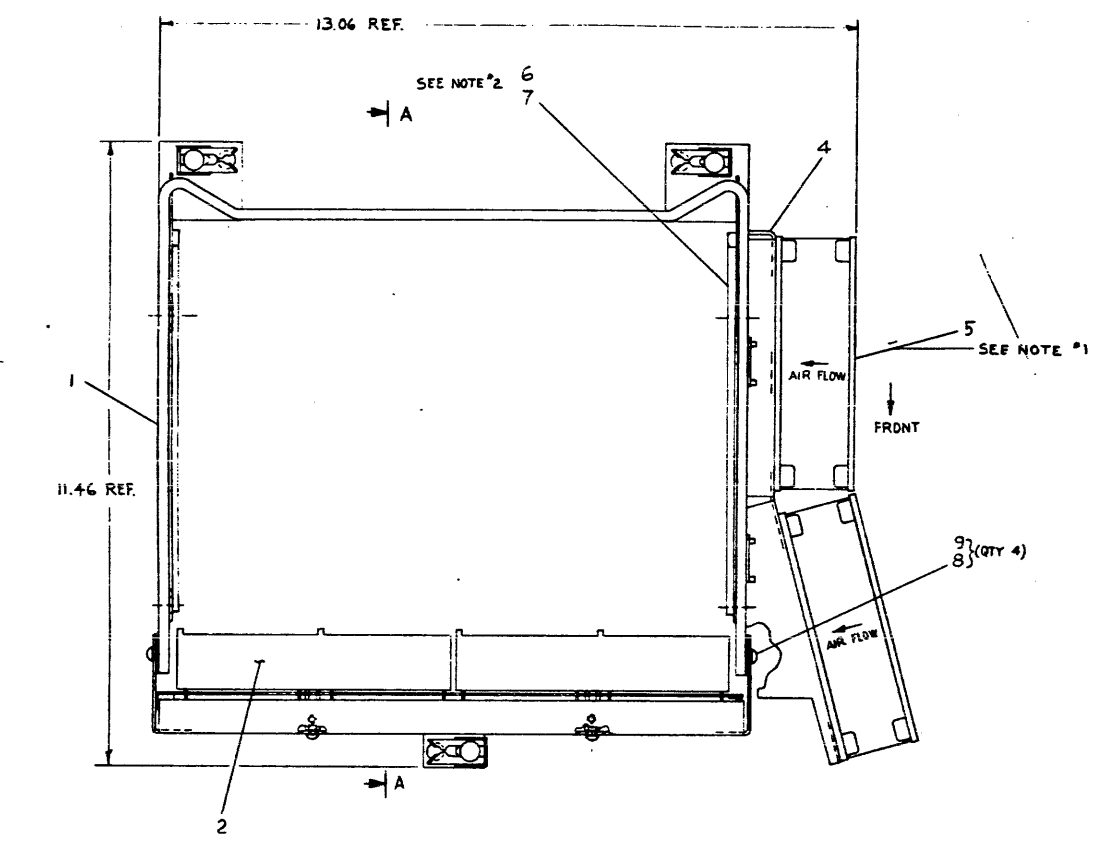
SIZE B CODE DD

NUMBER H9273 - Ø

REV B

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- NOTES:
1. MOUNT FANS SO THAT THE TERMINALS ARE ON THE TOP TOWARDS THE FRONT.
  2. 5 NATURAL CARD GUIDES (ITEM #7) AND 4 MEGENTA CARD GUIDES (ITEM #8) ON EACH SIDE. INSTALL SO COLORS ALTERNATE.
  3. DECAL MUST COVER SILK SCREENING COMPLETELY



|    |                           |                  |    |
|----|---------------------------|------------------|----|
| 1  | PACKAGING INSTRUCTIONS    | ASP 100324-00    | 14 |
| 1  | DECAL IDENTIFICATION      | 361551700        | 13 |
| 8  | CLIP, MOUNTING            | 9009165-00       | 12 |
| 8  | WASHER, LOCK INT. TOTH #6 | 9006633-00       | 11 |
| 8  | SCR, PH. PIN HD #6-32X.62 | 9006025-01       | 10 |
| 8  | WASHER, LOCK INT. TOTH #8 | 9006634-00       | 9  |
| 8  | SCR, PH. PIN HD #8-32X.38 | 9006037-01       | 8  |
| 10 | GUIDE, CARD (NATURAL)     | 1212405-08       | 7  |
| 8  | GUIDE, CARD (MEGENTA)     | 1212405-09       | 6  |
| 2  | FAN                       | 1213185-00       | 5  |
| 1  | BACKL. FAN MTS            | D-14-703805-0-0  | 4  |
| 1  | BRACKET, BACKPLANE        | D-14-701822-0-0  | 3  |
| 1  | BACKPLANE ASSY            | D-14-544223-0-0  | 2  |
| 1  | CARD FRAME ASSY           | C-14-7013647-0-0 | 1  |

QUANTITY & VARIATION

DESCRIPTION

DATE: 11/1/73

BY: H9273

SCALE: 1/1

SEE PARTS LIST

H9273  
LOGIC ASSY

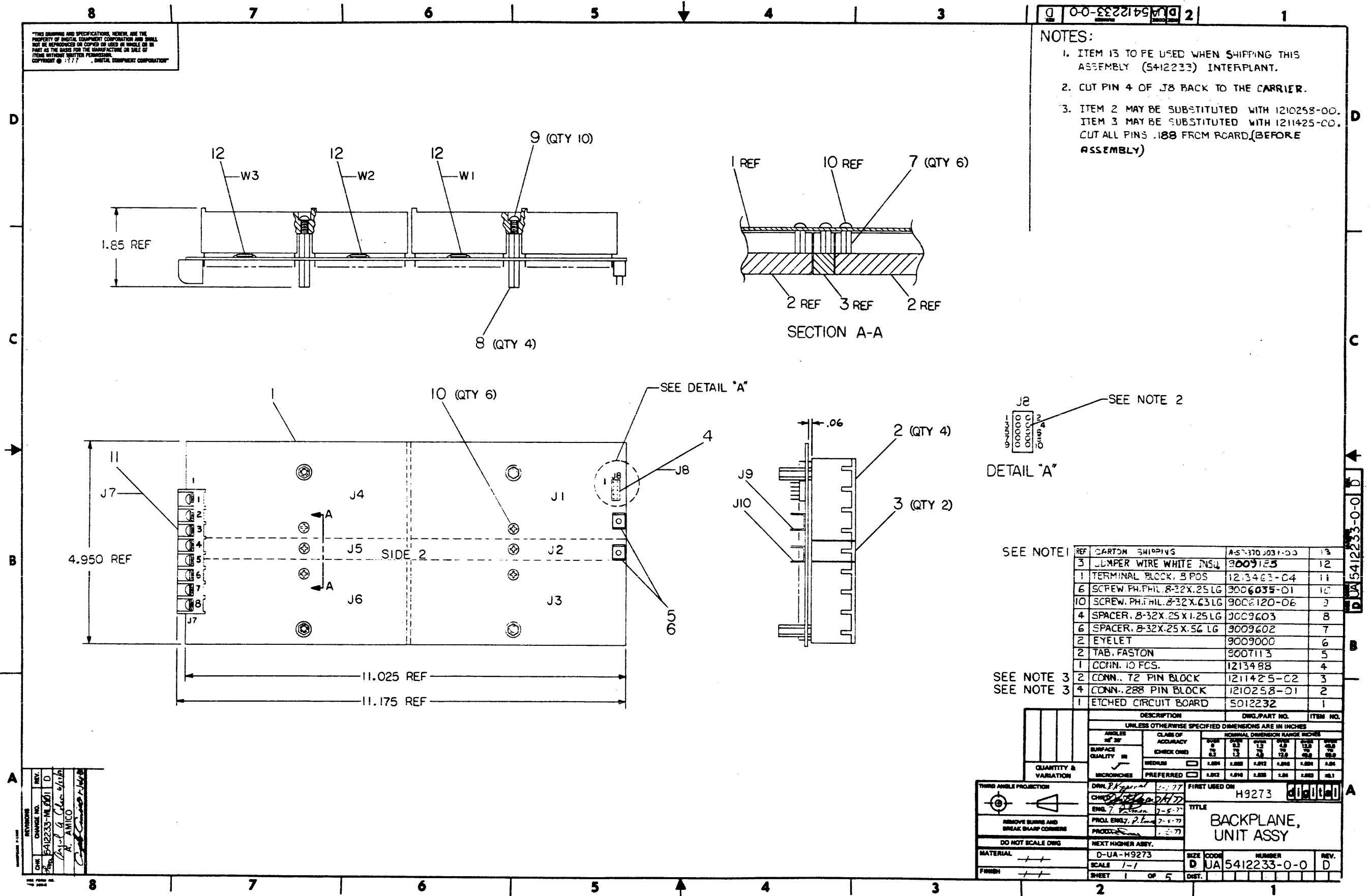
1/1

1





| REVISIONS                                                |     | CHG NO.       | REV. |
|----------------------------------------------------------|-----|---------------|------|
| 8/10/82                                                  | CHK | 5412233-ML001 | D    |
| Payrol 9 Calen 6/10/82<br>R. AMICO<br>Capt Amico 1-14-82 |     |               |      |



8 7 6 5 4 3 2 1

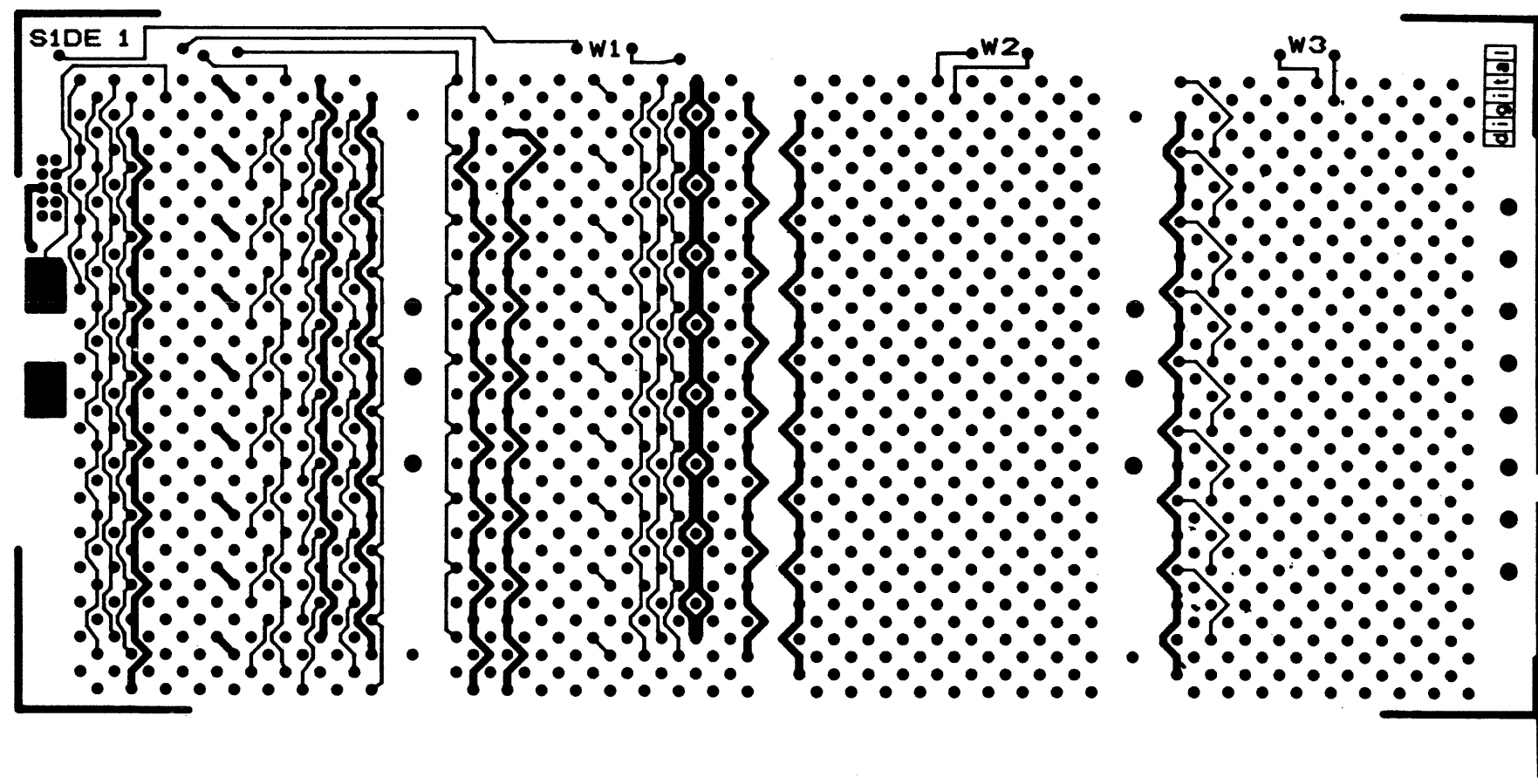
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D 5412233-0-0 2

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A

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C  
B  
A

5412233 5012232D L1



VIEWED FROM SIDE 1

| REVISIONS |            |     |
|-----------|------------|-----|
| CHK       | CHANGE NO. | REV |
|           |            |     |

DEC FORM NO. 137

8

7

6

5

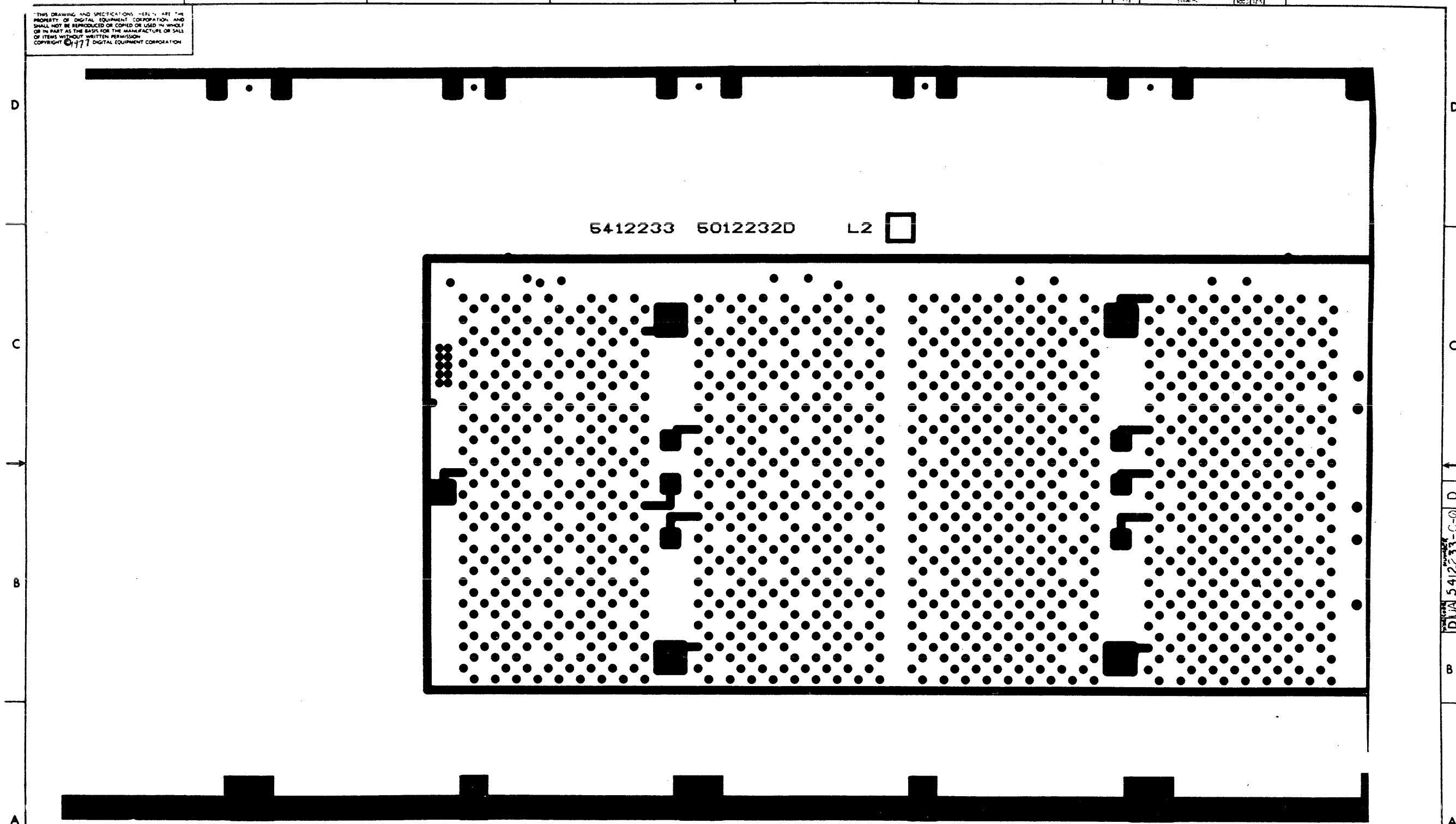
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3

2

1

|                 |  |      |       |             |        |       |
|-----------------|--|------|-------|-------------|--------|-------|
| TITLE           |  | SIZE | CODE  | NUMBER      |        | REV.  |
| BACKPLANE ASS'Y |  | D    | UA    | 5412233-0-0 |        | D     |
| SCALE           |  | 2:1  | SHEET |             | 2 OF 5 | DIST. |



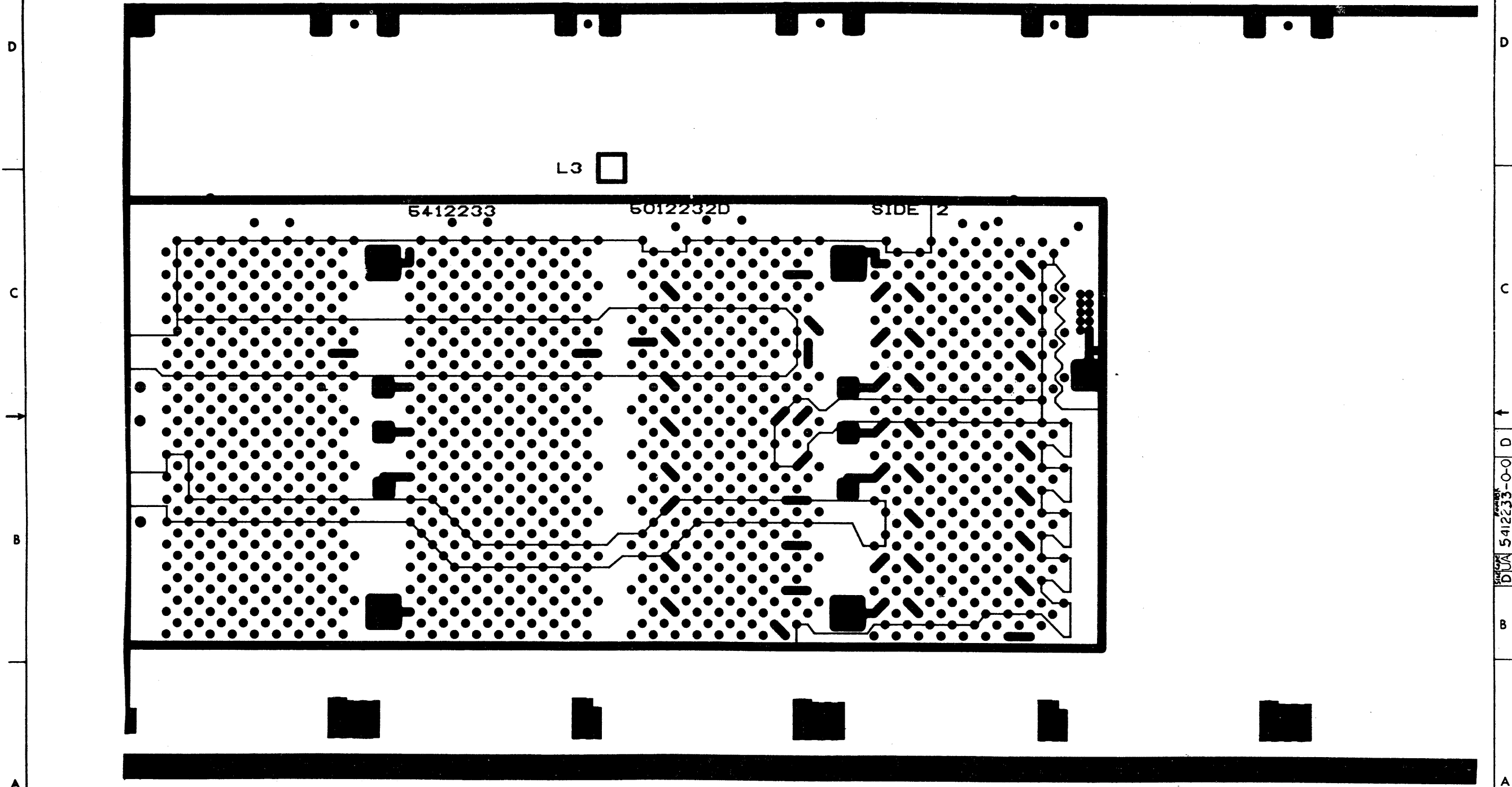
VIEWED FROM SIDE 1

| REVISIONS |            |     |
|-----------|------------|-----|
| CHK       | CHANGE NO. | REV |
|           |            |     |

|   |  |   |  |   |  |   |  |                          |  |                  |                       |      |          |   |  |
|---|--|---|--|---|--|---|--|--------------------------|--|------------------|-----------------------|------|----------|---|--|
|   |  |   |  |   |  |   |  | TITLE<br>BACKPLANE ASS'Y |  | SIZE/CODE<br>DUA | NUMBER<br>5412233-0-0 |      | REV<br>D |   |  |
|   |  |   |  |   |  |   |  | SCALE 1:1                |  | SHEET 3 OF 5     |                       | DIST |          |   |  |
| 8 |  | 7 |  | 6 |  | 5 |  | 4                        |  | 3                |                       | 2    |          | 1 |  |

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5412233-0-0 DUA 2



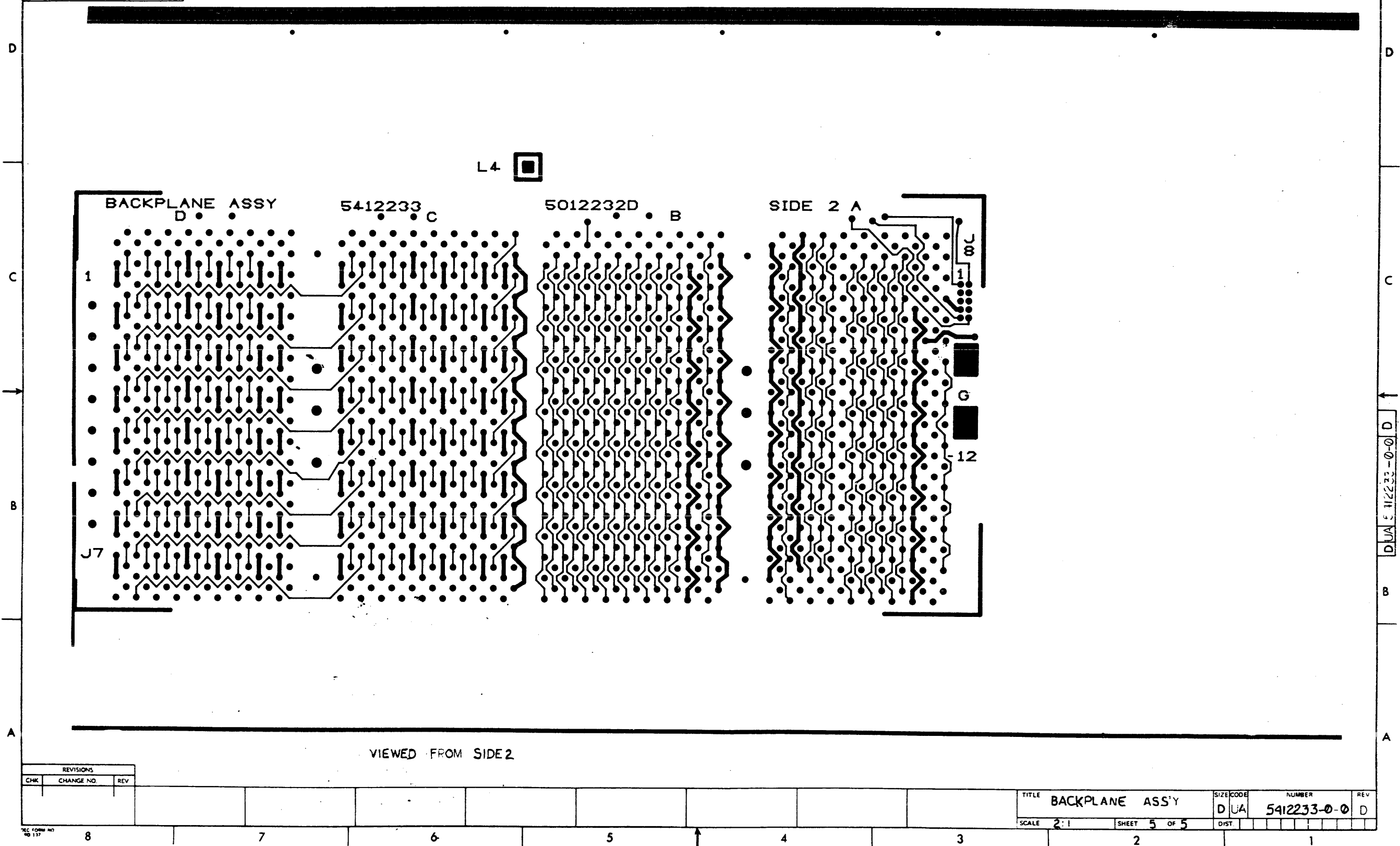
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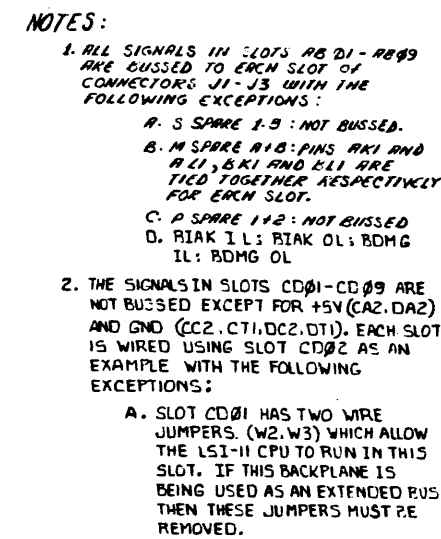
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|-----------|------------|-----|
| CHK       | CHANGE NO. | REV |
|           |            |     |
|           |            |     |
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|           |            |     |
|           |            |     |
|           |            |     |
|           |            |     |

DEC FORM NO 137

TITLE BACKPLANE ASS'Y  
SCALE 1:1  
SHEET 4 OF 5  
DUA 5412233-0-0  
NUMBER 5412233-0-0  
REV D

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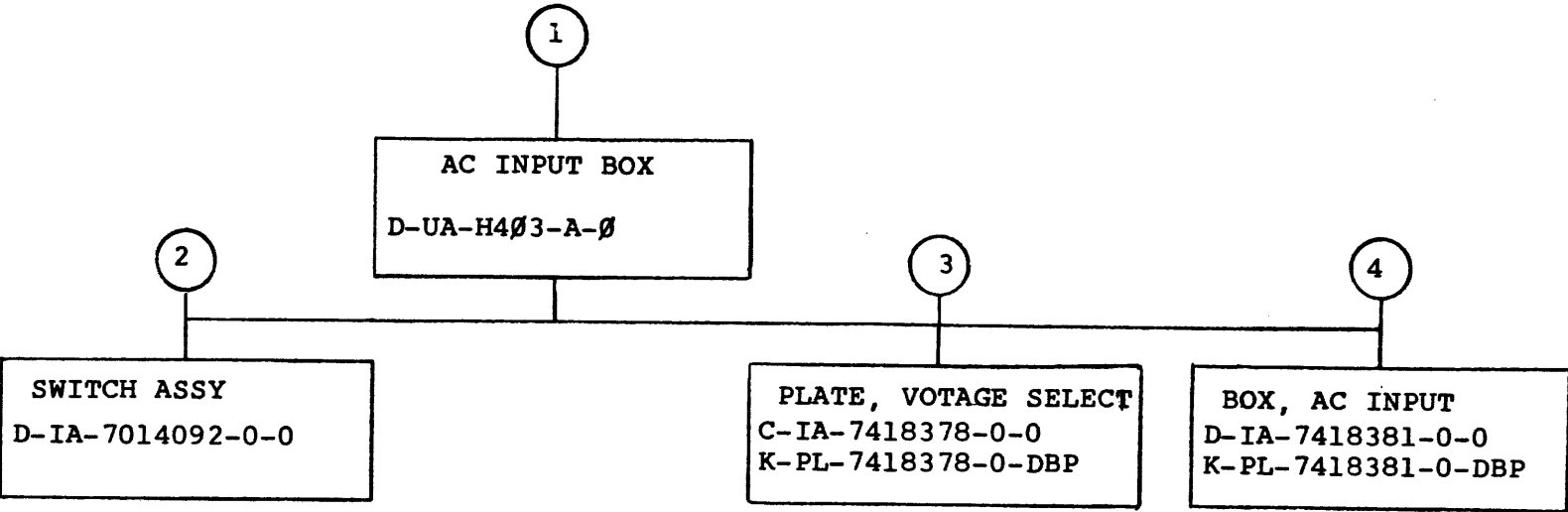




|                   |               |               |            |               |
|-------------------|---------------|---------------|------------|---------------|
| DRN               | <i>2-1-77</i> | FIRST USED ON | H92T3      | <i>1-1-77</i> |
| CHKD              | <i>2-1-77</i> | TITLE         | BACK PLANE |               |
| ENG               | <i>2-5-77</i> |               |            |               |
| PROJ. ENG.        | <i>2-5-77</i> |               |            |               |
| PROD.             | <i>2-5-77</i> |               |            |               |
| NEXT HIGHER ASSY. |               |               |            |               |
| D-UAL-5412233-O-O |               | SIZE          | CODE       | NUMBER        |
| SCALE NONE        |               | D             | CS         | 5412233-0-1   |
| SHEET             | 1 OF 1        | DIST.         |            | REV. D        |





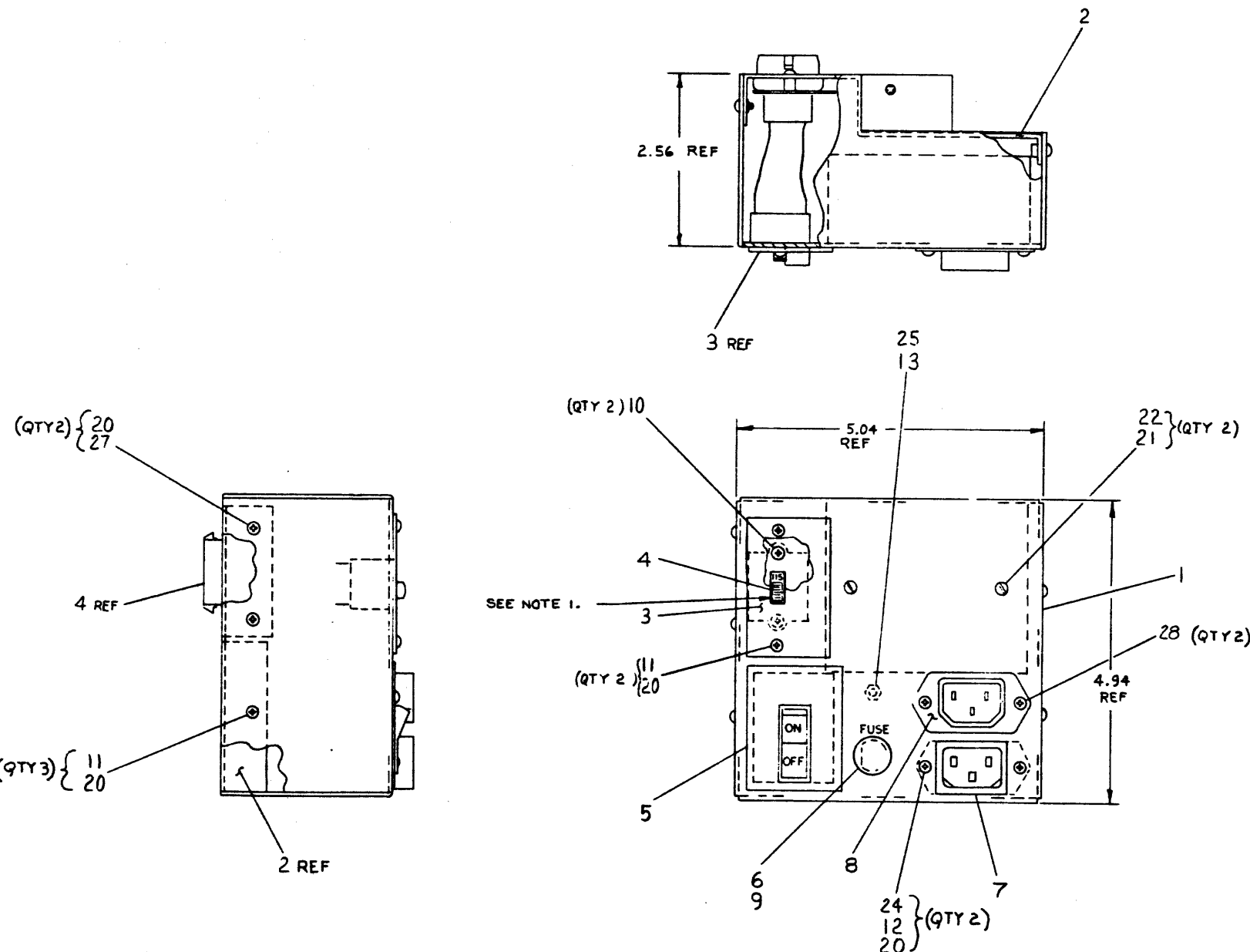


| TITLE               | SHEET 2 OF 3 | SIZE | CODE | NUMBER | REV. |
|---------------------|--------------|------|------|--------|------|
| AC INPUT BOX H403-A |              | B    | DD   | H4Ø3-A | B    |



NOTES:

1. MOUNT SWITCH AS SHOWN SO THAT  
WITH SWITCH LEVER DOWN 115V IS  
INDICATED ON TOP



|     |                            |                  |    |
|-----|----------------------------|------------------|----|
| 2   | SCR.PHL.FLAT HD. 4-40X.3I  | 9006010-02       | 28 |
| 2   | SCR PHL PAN HD. 4-40X.3I   | 9006010-01       | 27 |
| 4   | TUBING, SHRINK             | 9107305-02       | 26 |
| 1   | WASHER, LOCK EXT. TOOTH #8 | 9008072-00       | 25 |
| 2   | SCR PHL. PAN HD. 4-40X.38  | 9006011-01       | 24 |
| 4   | TERMINAL, FASTON RED       | 9007970-00       | 23 |
| 2   | WASHER, LOCK INT TOOTH #6  | 9006633-00       | 22 |
| 2   | SCR. PHL. PAN HD #6-32X.38 | 9006022-01       | 21 |
| 9   | WASHER, LOCK INT TOOTH #4  | 9006632-00       | 20 |
| 2   | PIN, MALE MATE-N-LOK       | 1213867-01       | 19 |
| A/R | WIRE #18 AWG 300V (BRN)    | 9107786-11       | 18 |
| A/R | WIRE #18 AWG 300V (BLU)    | 9107786-66       | 17 |
| A/R | WIRE #14 AWG (GRN/YEL)     | 9107777-54       | 16 |
| 2   | TERMINAL, RING #10 (BLU)   | 9007928-00       | 15 |
| 1   | TERMINAL, FASTON (BLU)     | 9007969-00       | 14 |
| 1   | NUT, KEPS #8-32            | 9006563-00       | 13 |
| 2   | NUT, KEPS #4-40            | 9006557-00       | 12 |
| 5   | SCR. PH. PAN HD #4-40X.25  | 9008301-01       | 11 |
| 2   | SCR. PH FLAT HD #4-40X.25  | 9006009-02       | 10 |
| 1   | FUSE 1/4A FAST BLOW        | 9008390-00       | 9  |
| 1   | AC RECEPTACLE (FEMALE)     | 1214157-00       | 8  |
| 1   | AC RECEPTACLE (MALE)       | 1213773-00       | 7  |
| 1   | FUSE HOLDER                | 1212893-00       | 6  |
| 1   | CIRCUIT BREAKER (15 AMP)   | 1214184-00       | 5  |
| 1   | SWITCH ASSY                | D-1A-7014092-0-0 | 4  |
| 1   | PLATE, VOLTAGE SELECT      | C-1A-7418378-0-0 | 3  |
| 1   | COVER, AC INPUT            | C-1A-7418380-0-0 | 2  |
| 1   | BOX, AC INPUT              | D-1A-7418381-0-0 | 1  |

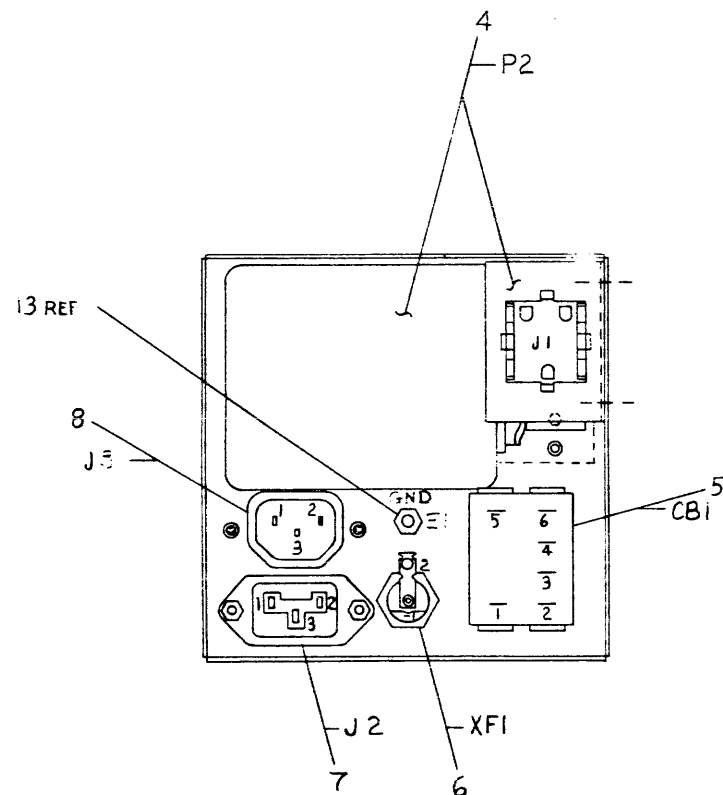
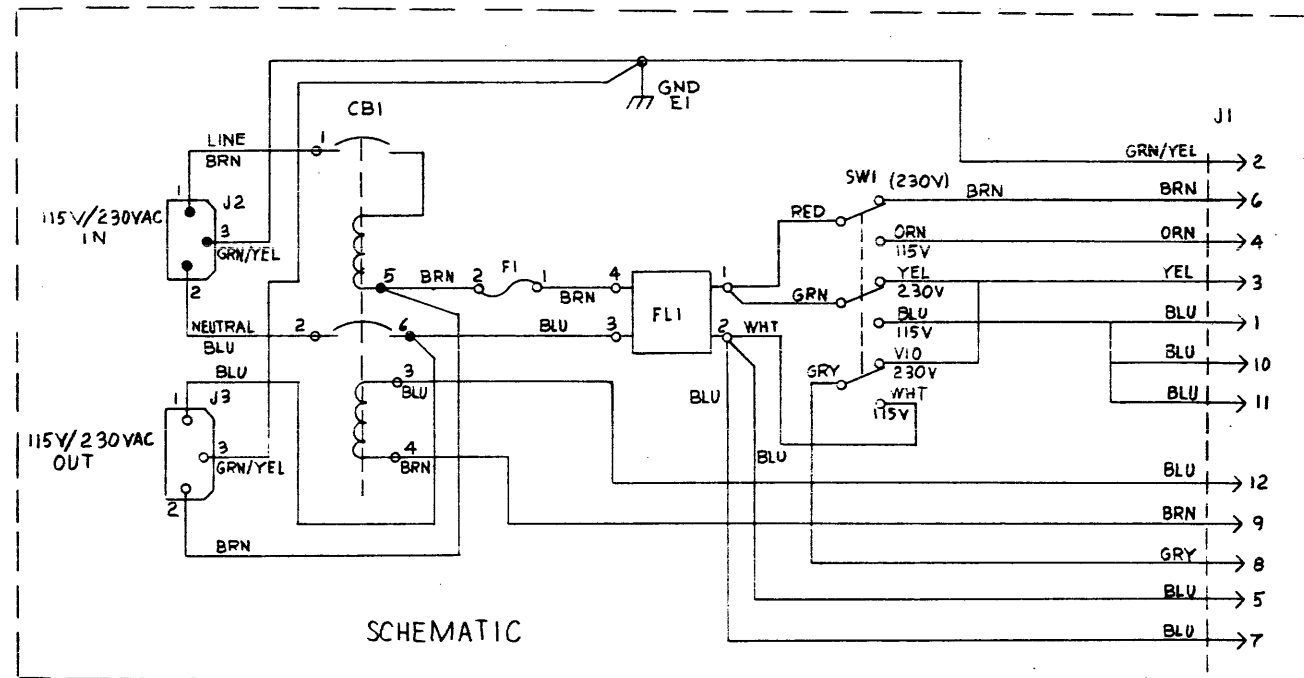
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                                                                                                                                                                                                                                                      |                                                                                 |                                     | DWG. PART NO. |                                |       | ITEM NO. |       |       |
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| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| ANGLES<br>30° 30'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                 | SLASH OF<br>ACCURACY<br>(CHECK ONE) |               | NOMINAL DIMENSION RANGE INCHES |       |          |       |       |
| SURFACE<br>QUALITY IN<br><br>MICROMETERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input checked="" type="checkbox"/> MEDIUM<br><input type="checkbox"/> PREPARED | OVER 0                              | 0.2           | 0.2                            | 0.2   | 0.2      | 0.2   | 0.2   |
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                                                                                                                                                                                                                                                      |                                                                                 | 0.005                               | 0.008         | 0.012                          | 0.016 | 0.020    | 0.024 | 0.028 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                 | 0.012                               | 0.016         | 0.020                          | 0.024 | 0.028    | 0.032 | 0.036 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                 | 0.036                               | 0.048         | 0.060                          | 0.072 | 0.084    | 0.096 | 0.108 |
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|                                                                                 |                                     |               |                                |       |          |       |       |

| REVISIONS         |  | CHG | CHANGE NO.   | REV. |
|-------------------|--|-----|--------------|------|
|                   |  |     | H403-A-00001 | A    |
| J. KALAGHER       |  |     |              |      |
|                   |  |     | H423-A-MC002 | B    |
| J. K. A. J. H. H. |  |     |              |      |

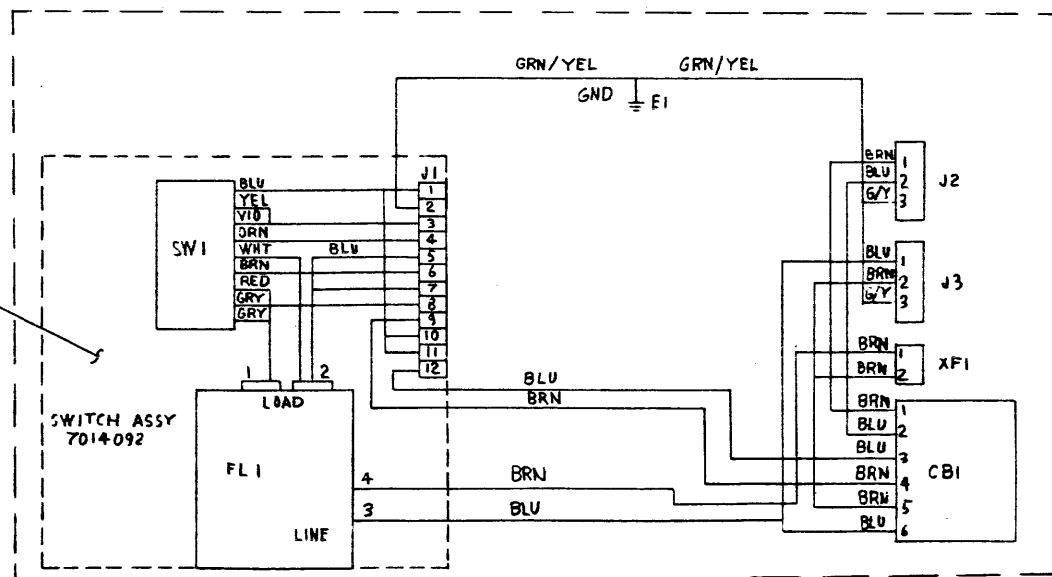
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# WIRE TABLE

| ITEM NO | AWG | COLOR   | FROM       |        | TO       |        |      |
|---------|-----|---------|------------|--------|----------|--------|------|
|         |     |         | CONN       | TERM   | CONN     | TERM   |      |
| 16      | 14  | GRN/YEL | J3-3       | SOLDER | GND (E1) | 15     | 2.25 |
| 16      | 14  | GRN/YEL | J2-3       | SOLDER |          | 15     | 2.25 |
| 4       | 18  | GRN/YEL | P2 (J1-2)  | —      | —        | —      | —    |
| 18      | 18  | BRN     | J2-1       | SOLDER | CB1-1    | 23     | 5.50 |
| 18      | 18  | BRN     | J3-2       | SOLDER | CB1-5    | 14     | 4.75 |
| 18      | 18  | BRN     | XFI-2      | SOLDER | —        | —      | 3.00 |
| 17      | 18  | BLU     | J2-2       | SOLDER | CB1-2    | 23     | 4.50 |
| 17      | 18  | BLU     | P2 (J1-2)  | —      | CB1-3    | 23     | 4.00 |
| 18      | 18  | BRN     | P2 (J1-9)  | —      | CB1-4    | 23     | 4.00 |
| 4       | 18  | BRN     | P2 (FL1-4) | —      | XFI-1    | SOLDER | —    |
| 4       | 18  | BLU     | P2 (FL1-3) | —      | —        | —      | —    |
| 4       | 18  | BLU     | J3-1       | SOLDER | CB1-6    | —      | —    |



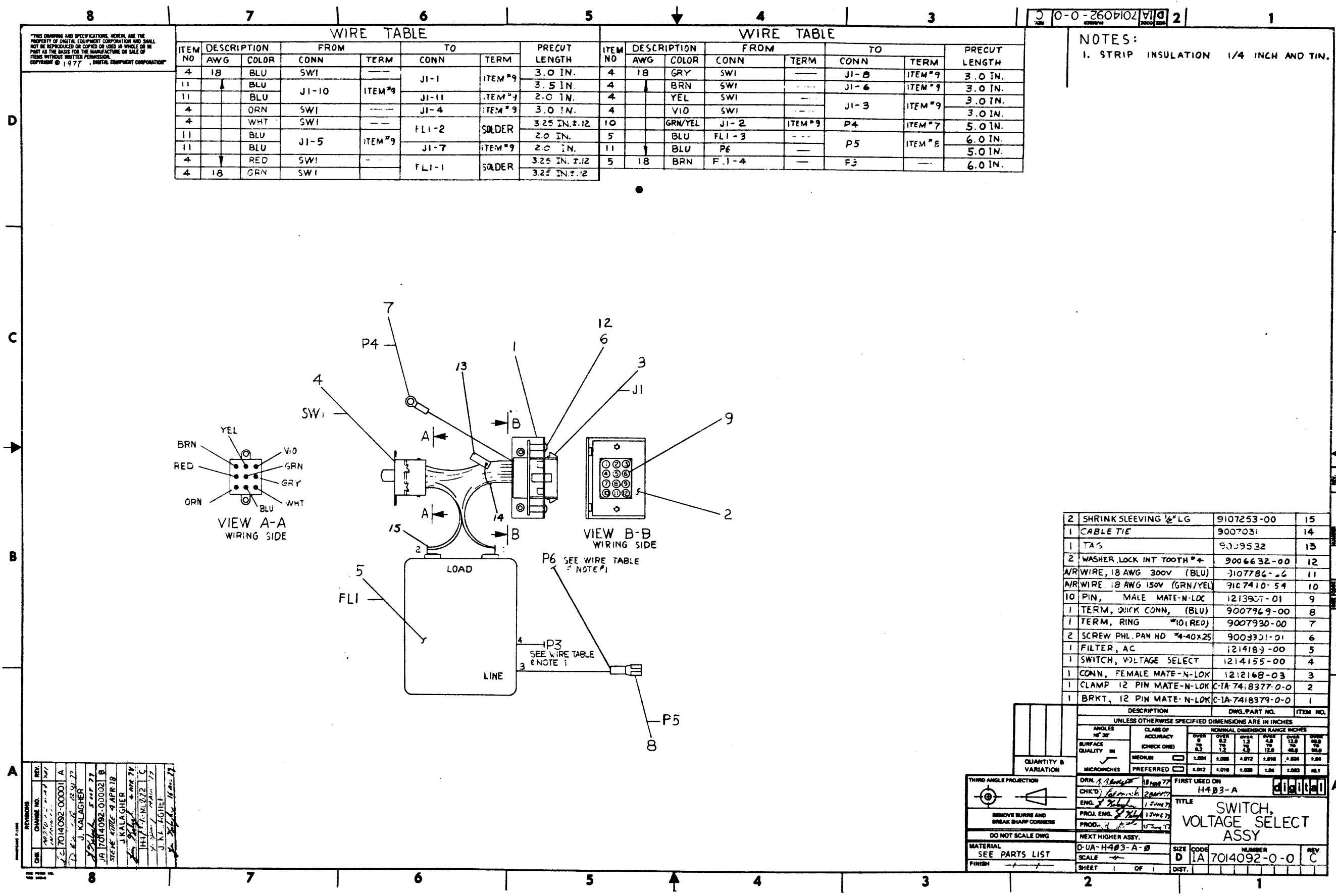
4  
P2  
REF



WIRING DIAGRAM

| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

|                     |  |              |          |      |
|---------------------|--|--------------|----------|------|
| TITLE               |  | SIZE CODE    | NUMBER   | REV. |
| AC INPUT BOX H403-A |  | DUA          | H403-A-0 | B    |
| SCALE 1/1           |  | SHEET 2 OF 2 | DIST.    |      |



| WIRED TABLE |             |       |        |                |  | WIRED TABLE |             |       |        |               |  |
|-------------|-------------|-------|--------|----------------|--|-------------|-------------|-------|--------|---------------|--|
| ITEM NO     | DESCRIPTION | FROM  | TO     | PRECUT LENGTH  |  | ITEM NO     | DESCRIPTION | FROM  | TO     | PRECUT LENGTH |  |
| 4           | 18 BLU      | SW1   | ---    | 3.0 IN.        |  | 4           | 18 GRY      | SW1   | ---    | 3.0 IN.       |  |
| 11          | BLU         | J1-10 | ITEM*9 | 3.5 IN.        |  | 4           | BRN         | SW1   | ---    | 3.0 IN.       |  |
| 11          | BLU         | ---   | J1-11  | 2.0 IN.        |  | 4           | YEL         | SW1   | ---    | 3.0 IN.       |  |
| 4           | ORN         | SW1   | ---    | 3.0 IN.        |  | 4           | VIO         | SW1   | ---    | 3.0 IN.       |  |
| 4           | WHT         | SW1   | ---    | 3.25 IN. ± .12 |  | 10          | GRN/YEL     | J1-2  | ITEM*9 | 5.0 IN.       |  |
| 11          | BLU         | J1-5  | ITEM*9 | 2.0 IN.        |  | 5           | BLU         | FLI-3 | ---    | 6.0 IN.       |  |
| 11          | BLU         | ---   | J1-7   | 2.0 IN.        |  | 11          | BLU         | P6    | ---    | 5.0 IN.       |  |
| 4           | RED         | SW1   | ---    | 3.25 IN. ± .12 |  | 5           | 18 BRN      | FLI-4 | ---    | 6.0 IN.       |  |
| 4           | 18 GRN      | SW1   | ---    | 3.25 IN. ± .12 |  |             |             |       |        |               |  |

NOTES:  
1. STRIP INSULATION 1/4 INCH AND TIN.

|                                 |                           |                  |    |
|---------------------------------|---------------------------|------------------|----|
| 2                               | SHRINK SLEEVING 1/2" LG   | 9107253-00       | 15 |
| 1                               | CABLE TIE                 | 9007031          | 14 |
| 1                               | TAGS                      | 9009532          | 13 |
| 2                               | WASHER, LOCK INT TOOTH #4 | 9006632-00       | 12 |
| A/R WIRE, 18 AWG 300V (BLU)     |                           | 9107786-26       | 11 |
| A/R WIRE, 18 AWG 150V (GRN/YEL) |                           | 9107410-54       | 10 |
| 10                              | PIN, MALE MATE-N-LOK      | 1213907-01       | 9  |
| 1                               | TERM, QUICK CONN, (BLU)   | 9007969-00       | 8  |
| 1                               | TERM, RING #10 (RED)      | 9007930-00       | 7  |
| 2                               | SCREW PHL PAN HD #4-40x25 | 9009331-01       | 6  |
| 1                               | FILTER, AC                | 1214183-00       | 5  |
| 1                               | SWITCH, VOLTAGE SELECT    | 1214155-00       | 4  |
| 1                               | CONN, FEMALE MATE-N-LOK   | 1212168-03       | 3  |
| 1                               | CLAMP 12 PIN MATE-N-LOK   | C-1A-7418377-0-0 | 2  |
| 1                               | BRKT, 12 PIN MATE-N-LOK   | C-1A-7418379-0-0 | 1  |

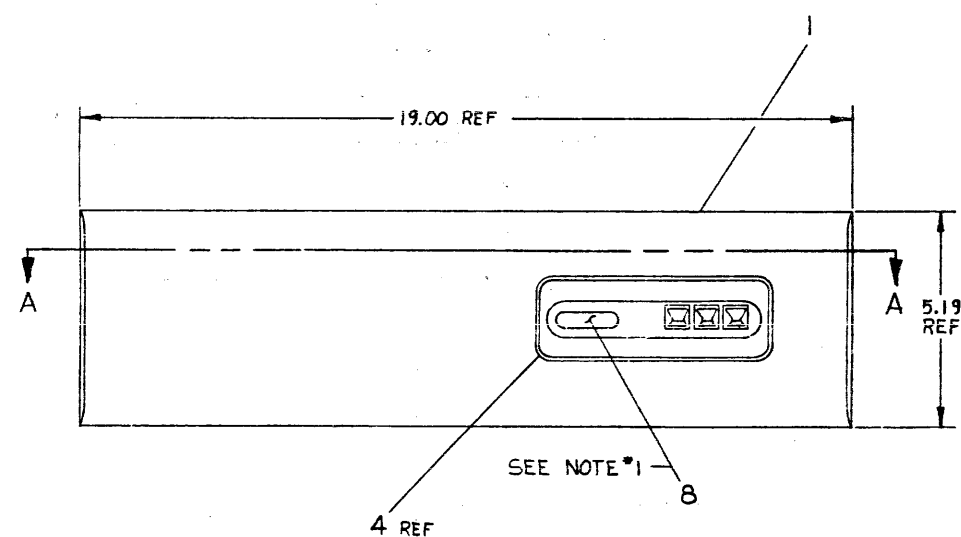
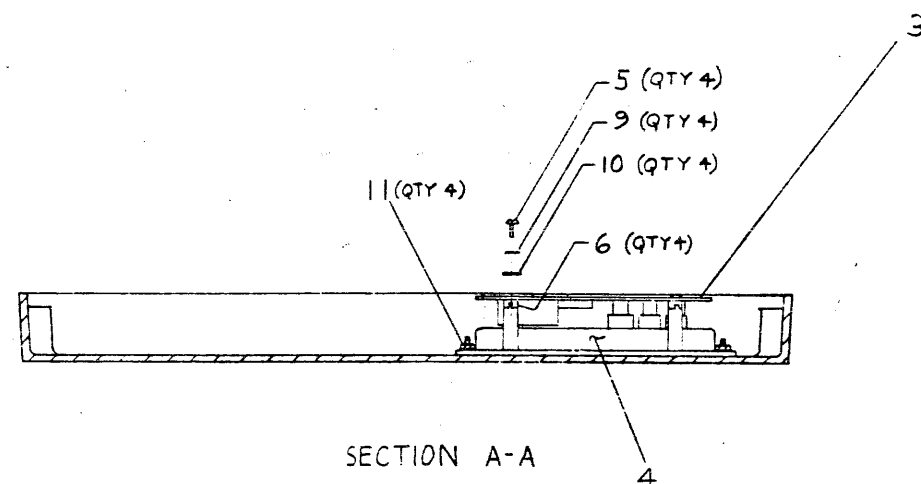
|                                                     |  |                             |  |     |          |
|-----------------------------------------------------|--|-----------------------------|--|-----|----------|
| QUANTITY & VARIATION                                |  | DESCRIPTION                 |  | QTY | ITEM NO. |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES |  |                             |  |     |          |
| ANGLES                                              |  | CLAS OF ACCURACY            |  |     |          |
| 30°                                                 |  | CHECK ONE                   |  |     |          |
| SURFACE QUALITY                                     |  | MICROINCHES                 |  |     |          |
| VARIATION                                           |  | PREFERRED                   |  |     |          |
| THIRD ANGLE PROJECTION                              |  | FIRST USED ON               |  |     |          |
| REMOVE BURRS AND BREAK SHARP CORNERS                |  | H4B3-A                      |  |     |          |
| DO NOT SCALE DWG                                    |  | TITLE                       |  |     |          |
| MATERIAL SEE PARTS LIST                             |  | SWITCH, VOLTAGE SELECT ASSY |  |     |          |
| FINISH                                              |  | SIZE CODE NUMBER REV        |  |     |          |
|                                                     |  | D 1A 7014092-0-0 C          |  |     |          |
|                                                     |  | SHEET 1 OF 1                |  |     |          |

| REV | DATE     | BY          | CHKD        | DESCRIPTION             |
|-----|----------|-------------|-------------|-------------------------|
| 1   | 10/10/77 | J. KALAGHER | J. KALAGHER | INITIAL DESIGN          |
| 2   | 11/10/77 | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 3   | 12/10/77 | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 4   | 1/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 5   | 2/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 6   | 3/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 7   | 4/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 8   | 5/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 9   | 6/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 10  | 7/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 11  | 8/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |
| 12  | 9/10/78  | J. KALAGHER | J. KALAGHER | REVISED FOR MANUFACTURE |

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# NOTES:

1. ULTRASONICALLY WELD THE WINDOW (ITEM\*8) TO THE FRAME (ITEM\*4) BEFORE INSTALLING THE FRAME INTO THE BEZEL



|   |                           |                  |    |
|---|---------------------------|------------------|----|
| 4 | FASTENER, PUSH ON         | 9010032-00       | 11 |
| 4 | WASHER, FLAT #6           | 9006653          | 10 |
| 4 | L'WASHER #6               | 9006633          | 9  |
| 1 | WINDOW                    | B-MD-7411744-00  | 8  |
| 4 | WASHER, FLAT NO. 8        | 9006660-00       | 7  |
| 4 | INSERT #6-32              | 9009401-00       | 6  |
| 4 | SLR. PHL HD PAN #6-32X.38 | 9006022-01       | 5  |
| 1 | FRAME                     | D-MD-7411945-02  | 4  |
| 1 | 11/03-L FRONT PANEL       | O-UA-5412985-0-0 | 3  |
| 4 | NUT, KEPS #8-32           | 9006563-00       | 2  |
| 1 | BEZEL 5-1/4"              | E-MD-7415313-03  | 1  |

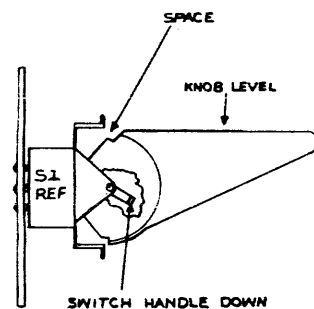
| DESCRIPTION                                         |                      | DWG./PART NO.                  | ITEM NO.     |
|-----------------------------------------------------|----------------------|--------------------------------|--------------|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES |                      |                                |              |
| ANGLES<br>90° 30°                                   | CLASS OF<br>ACCURACY | NOMINAL DIMENSION RANGE INCHES |              |
| SURFACE<br>QUALITY<br>IN                            | CHECK ONE            | OVER<br>0.5                    | OVER<br>1.3  |
|                                                     |                      | OVER<br>1.3                    | OVER<br>12.0 |
| MEDIUM                                              | CHECK ONE            | ±.008                          | ±.012        |
|                                                     |                      | ±.012                          | ±.025        |
| MICROMETERS                                         |                      | ±.001                          | ±.002        |
| THIRD ANGLE PROJECTION                              |                      | FIRST USED ON                  |              |
| REMOVE BURRS AND<br>BREAK SHARP CORNERS             |                      | BA11-N                         |              |
| DO NOT SCALE DWG                                    |                      | TITLE                          |              |
| MATERIAL<br>SEE PARTS LIST                          |                      | BEZEL ASSY                     |              |
| FINISH                                              |                      | SIZE CODE                      | NUMBER       |
| SCALE 1/2                                           |                      | D AD                           | 7013949-0-0  |
| SHEET 1 OF 1                                        |                      | DIST.                          | REV. A       |

| REVISEMENTS       |             |      |
|-------------------|-------------|------|
| CHK               | CHANGE NO.  | REV. |
| SR                | RAIN MIL/03 | A    |
| C. K. K. 12 34 78 |             |      |
| J. KALAHN         |             |      |
| L. 811 20 00 78   |             |      |

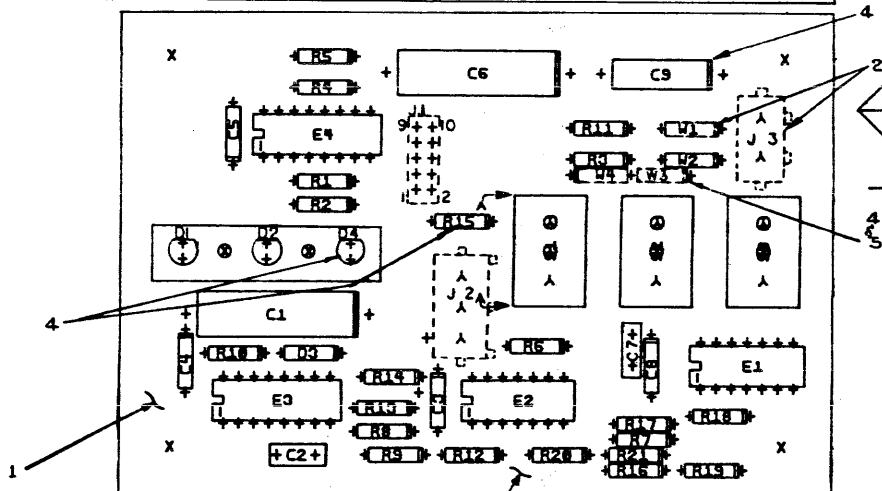
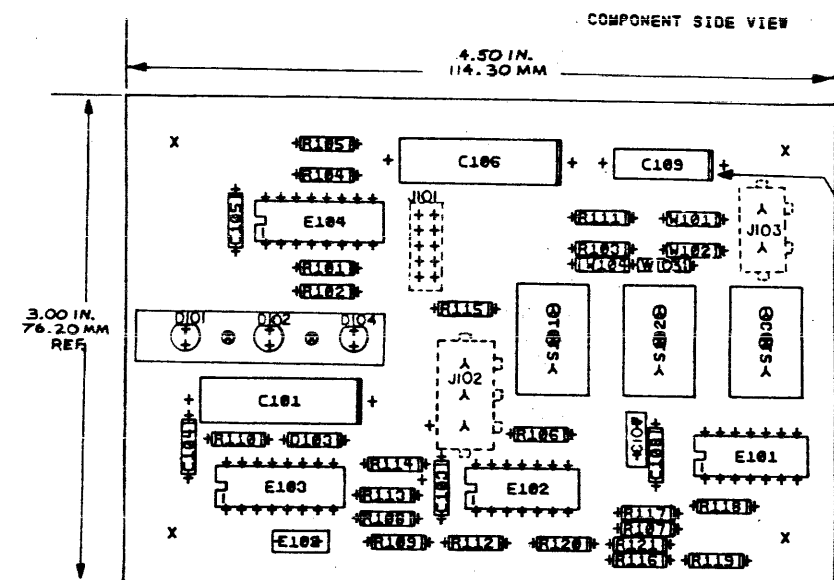
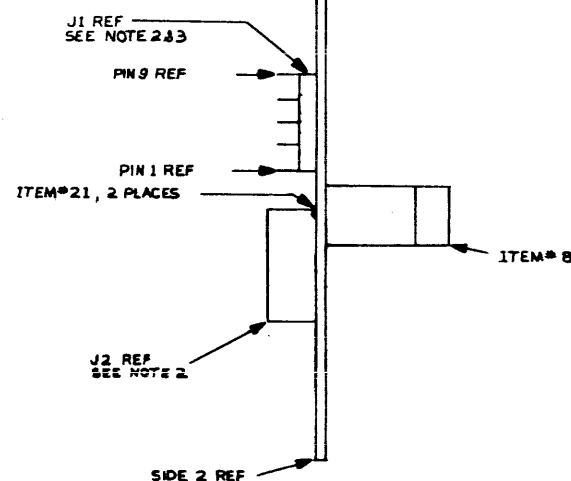


| REFERENCE DESIGNATION CHART |                         |
|-----------------------------|-------------------------|
| ACTUAL REF. DESIG.          | SUPERFICIAL REF. DESIG. |
| E1                          | E1Q1                    |
| E2                          | E1Q2                    |
| E3                          | E1Q3                    |
| E4                          | E1Q4                    |
| S1-S3                       | S1Q1 - S1Q3             |
| C1-C9                       | C1Q1 - C1Q9             |
| D1-D8                       | D1Q1 - D1Q4             |
| R1-R21                      | R1Q1 - R1Q1             |
| J1-J3                       | J1Q1 - J1Q3             |
| W1-W4                       | W1Q1 - W1Q4             |

☐ SEE NOTE 244



NOTE, FOR S1,S2 AND S3 TO BE PROPERLY INSTALLED,  
SWITCH HANDLE MUST BE DOWN, SWITCH  
KNOB MUST BE LEVEL AND THERE MUST BE  
A SPACE AT THE TOP OF THE SWITCH ASSEMBLY.



NOTE, - MULTI-REF DESIGNATIONS ARE USED TO  
ACCOMMODATE PANEL INSERTION TECHNIQUES.  
REFER TO CHART FOR CROSS-REFERENCE.

5 W3 IS A FIELD OPTION AND  
MUST BE INSERTED ON SIDE 2.

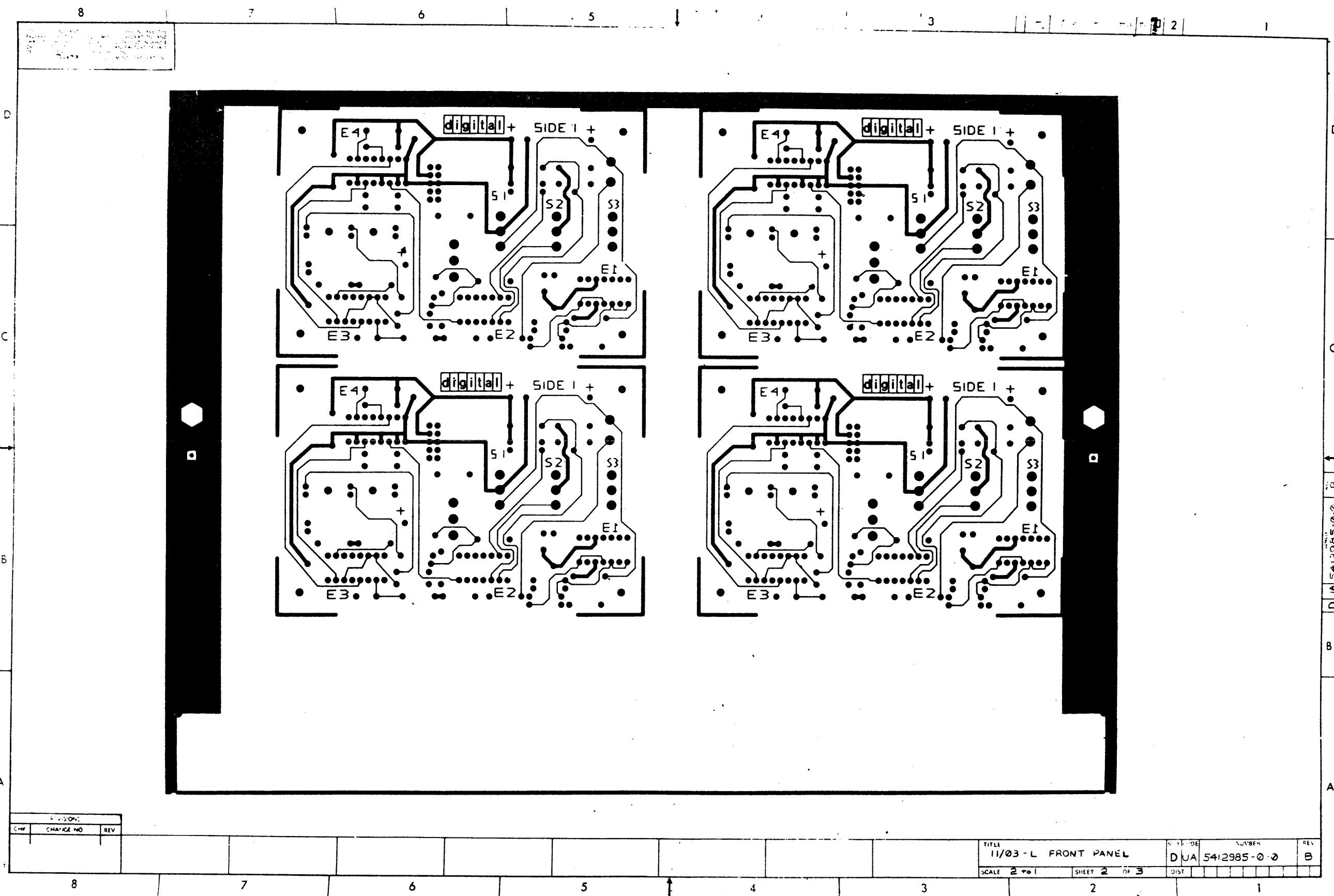
1. 8 HOLES .0465 (+.003 - .0045) MAYNARD ONLY
2. MOUNT J1,J2,J3,W1,W2 AND W4 ON SIDE 2 AFTER ALL OTHER COMPONENTS HAVE BEEN ASSEMBLED ONTO BOARD AND BOARD HAS BEEN RUN THROUGH WAVE SOLDER.
3. CUT PIN4) OF J1 OFF AT BASE OF COMPONENT
4. DO NOT INSERT W3,D4,C5 OR JMB, THESE COMPONENTS ARE OPTIONAL

| CHRG | CHANGE NO.         | REV    |
|------|--------------------|--------|
|      | 242845-0000        | 6      |
|      | Q.D.-gates         | 5/1/76 |
|      | TOM PITMAN         |        |
|      | <i>[Signature]</i> | 5-1-76 |

ETCH REV. C-P2  
P.C. DESIGN DATA BASE REV.

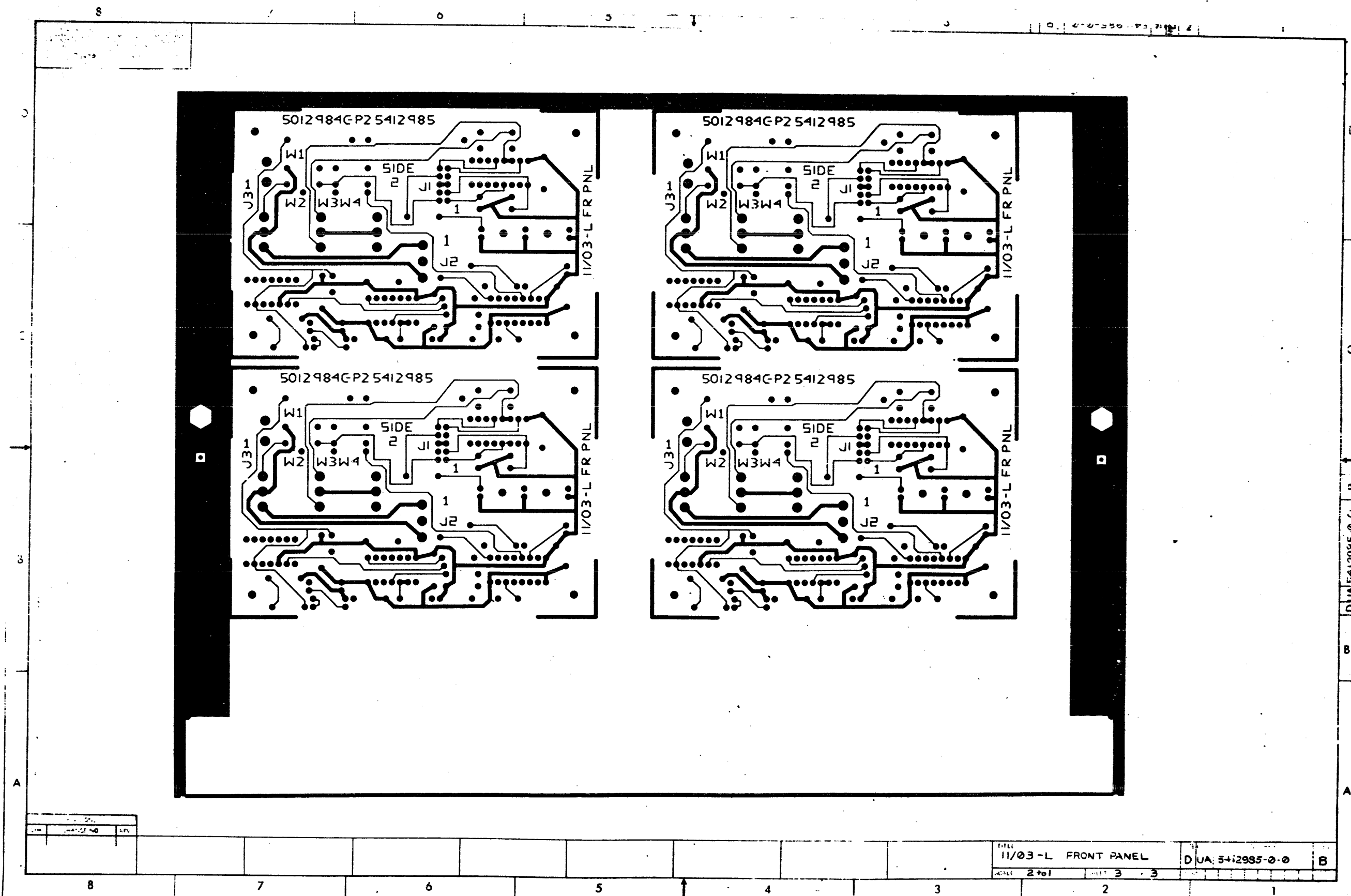
|                                   |  |           |               |  |
|-----------------------------------|--|-----------|---------------|--|
| SIGNATURES                        |  | DATE      | digital       |  |
| DRN. <i>Donald Smith</i>          |  | 1/24/78   |               |  |
| CHK'D. <i>[Signature]</i>         |  | 1-24-78   |               |  |
| ENC. <i>Henry G. Pitzer</i>       |  | 1-24-78   | TITLE 11/03-L |  |
| PROJ. ENG. <i>J. James Pitzer</i> |  | 1-24-78   | FRONT PANEL   |  |
| PROD. <i>[Signature]</i>          |  | 1-24-78   |               |  |
| SCALE 2 to 1                      |  | SIZE CODE | NUMBER        |  |
| SHT. 1 OF 3                       |  | A UA      | 5412385-B-2   |  |
| MYT HTRR SKY. A-DD-5412385-D      |  | D         | E             |  |





| REVISIONS |           |     |
|-----------|-----------|-----|
| CHG       | CHANGE NO | REV |
|           |           |     |

|                       |  |              |  |             |  |     |
|-----------------------|--|--------------|--|-------------|--|-----|
| TITLE                 |  | SHEET NO     |  | NUMBER      |  | REV |
| 11/03 - L FRONT PANEL |  | DUA          |  | 5412985-0-0 |  | B   |
| SCALE 2 to 1          |  | SHEET 2 OF 3 |  | DIST        |  |     |



|     |      |    |
|-----|------|----|
| REV | DATE | BY |
|     |      |    |

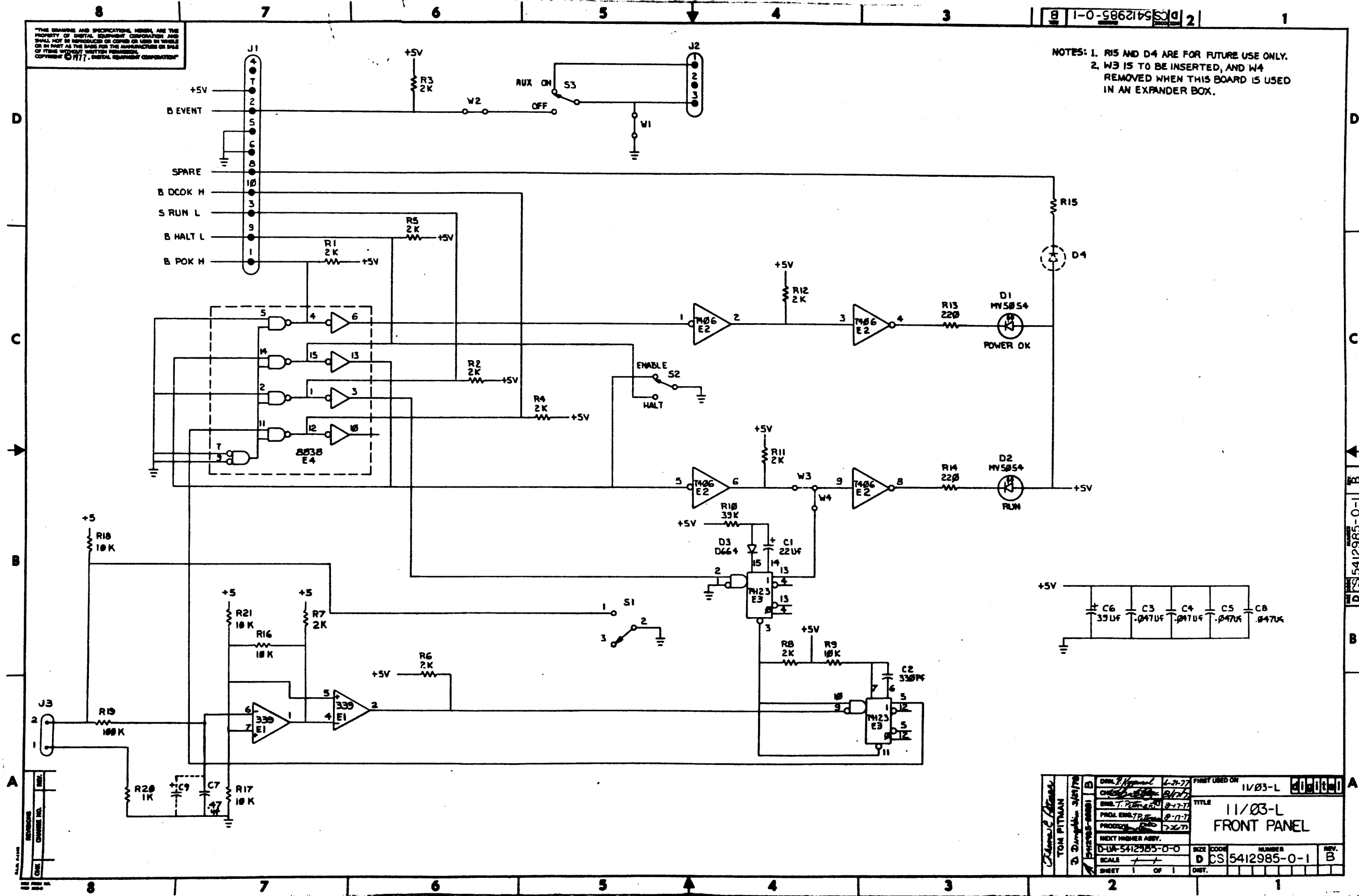
|       |                     |                  |   |
|-------|---------------------|------------------|---|
| FILE  | 11/03-L FRONT PANEL | DIA: 5412985-0-0 | B |
| SCALE | 2x1                 | 3                | 3 |

| DIGITAL EQUIPMENT CORPORATION<br>PARTS LIST                                                                                                                                                                                                                                               |                  |                                     |                                         | QUANTITY / VARIATION            |  |  |  |                                              |  |  |  |                         |  |                                                               |  | NOTES:<br>FOR ADDITIONAL INSERTION DATA SEE<br>D-UA-5412985-0-0 |                        |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------|-----------------------------------------|---------------------------------|--|--|--|----------------------------------------------|--|--|--|-------------------------|--|---------------------------------------------------------------|--|-----------------------------------------------------------------|------------------------|--|--|
| MADE BY<br>DATE R. KOPPENAL                                                                                                                                                                                                                                                               |                  | CHECKED<br>DATE <i>[Signature]</i>  |                                         | SECTION<br>1                    |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 |                        |  |  |
| ENG<br>DATE T. Pittman<br>8-17-77                                                                                                                                                                                                                                                         |                  | PROD<br>DATE R. Hamilton<br>7-26-77 |                                         | ISSUED SECTION<br>1             |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 |                        |  |  |
| ITEM<br>NO.                                                                                                                                                                                                                                                                               | DRAWING NO.      | PART NO.                            | DESCRIPTION                             | 5412985-0-0                     |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | REF DESIGNATION        |  |  |
| 1                                                                                                                                                                                                                                                                                         | D-MD-5012984-0-0 | 5012984                             | ETCHED BOARD                            | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 |                        |  |  |
| 2                                                                                                                                                                                                                                                                                         |                  | 1002433                             | CAP., 22 UF, 35V 20 TANT                | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | C1                     |  |  |
| 3                                                                                                                                                                                                                                                                                         |                  | 1000023                             | CAP., 330 PF, 100V 5% DM                | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | C2, C                  |  |  |
| 4                                                                                                                                                                                                                                                                                         |                  | 1005335                             | CAP., 39 UF, 20V 10% TANT               | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | C6                     |  |  |
| 5                                                                                                                                                                                                                                                                                         |                  | 1012784                             | CAP., .047 UF, 50V CER                  | 4                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | C3, C4, C5, C8         |  |  |
| 6                                                                                                                                                                                                                                                                                         |                  | 1100114                             | DIODE, D664                             | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | D3                     |  |  |
| 7                                                                                                                                                                                                                                                                                         |                  | 1110324-00                          | DIODE, MV5054                           | 2                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | D1, D2                 |  |  |
| 8                                                                                                                                                                                                                                                                                         |                  | 1210940-02                          | HOLDER, TRIPLE, LED                     | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 |                        |  |  |
| 9                                                                                                                                                                                                                                                                                         |                  | 1210840-00                          | SWITCH, TOGGLE, SPDT                    | 2                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | S2, S3                 |  |  |
| 10                                                                                                                                                                                                                                                                                        |                  | 1210786-00                          | KNOB, LIGHT GRAY                        | 3                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 |                        |  |  |
| 11                                                                                                                                                                                                                                                                                        |                  | 1213488-00                          | CONNECTOR, 10 PIN HOUSING               | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | J1                     |  |  |
| 12                                                                                                                                                                                                                                                                                        |                  | <del>1211342-03</del>               | <del>CONNECTOR, 3 PIN (P.C. TYPE)</del> | <del>1</del>                    |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | <del>J2</del>          |  |  |
| 13                                                                                                                                                                                                                                                                                        |                  | 1302388                             | RES., 2K, 1/4W, 5% CC                   | 10                              |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | R1-R8, R11, R12        |  |  |
| 14                                                                                                                                                                                                                                                                                        |                  | 1302514                             | RES., 39K, 1/4W, 5% CC                  | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | R10                    |  |  |
| 15                                                                                                                                                                                                                                                                                        |                  | 1300479                             | RES., 10K, 1/4W, 5% CC                  | 5                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | R9, R16, R17, R18, R21 |  |  |
| 16                                                                                                                                                                                                                                                                                        |                  | 1300271                             | RES., 220, 1/4W, 5% CC                  | 2                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | R13, R14               |  |  |
| 17                                                                                                                                                                                                                                                                                        |                  | 1911117                             | I.C. 8838                               | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | E4                     |  |  |
| 18                                                                                                                                                                                                                                                                                        |                  | 1910741                             | I.C., 7406                              | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | E2                     |  |  |
| 19                                                                                                                                                                                                                                                                                        |                  | 1910436                             | I.C., 74123                             | 1                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | E3                     |  |  |
| 20                                                                                                                                                                                                                                                                                        |                  | 9009185                             | JUMPER INSULATED                        | 3                               |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 | W1, W2, W4             |  |  |
| ECO. NO. 00001                                                                                                                                                                                                                                                                            |                  |                                     |                                         |                                 |  |  |  |                                              |  |  |  |                         |  |                                                               |  |                                                                 |                        |  |  |
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NOTES: 1. R15 AND D4 ARE FOR FUTURE USE ONLY.  
2. W3 IS TO BE INSERTED, AND W4 REMOVED WHEN THIS BOARD IS USED IN AN EXPANDER BOX.



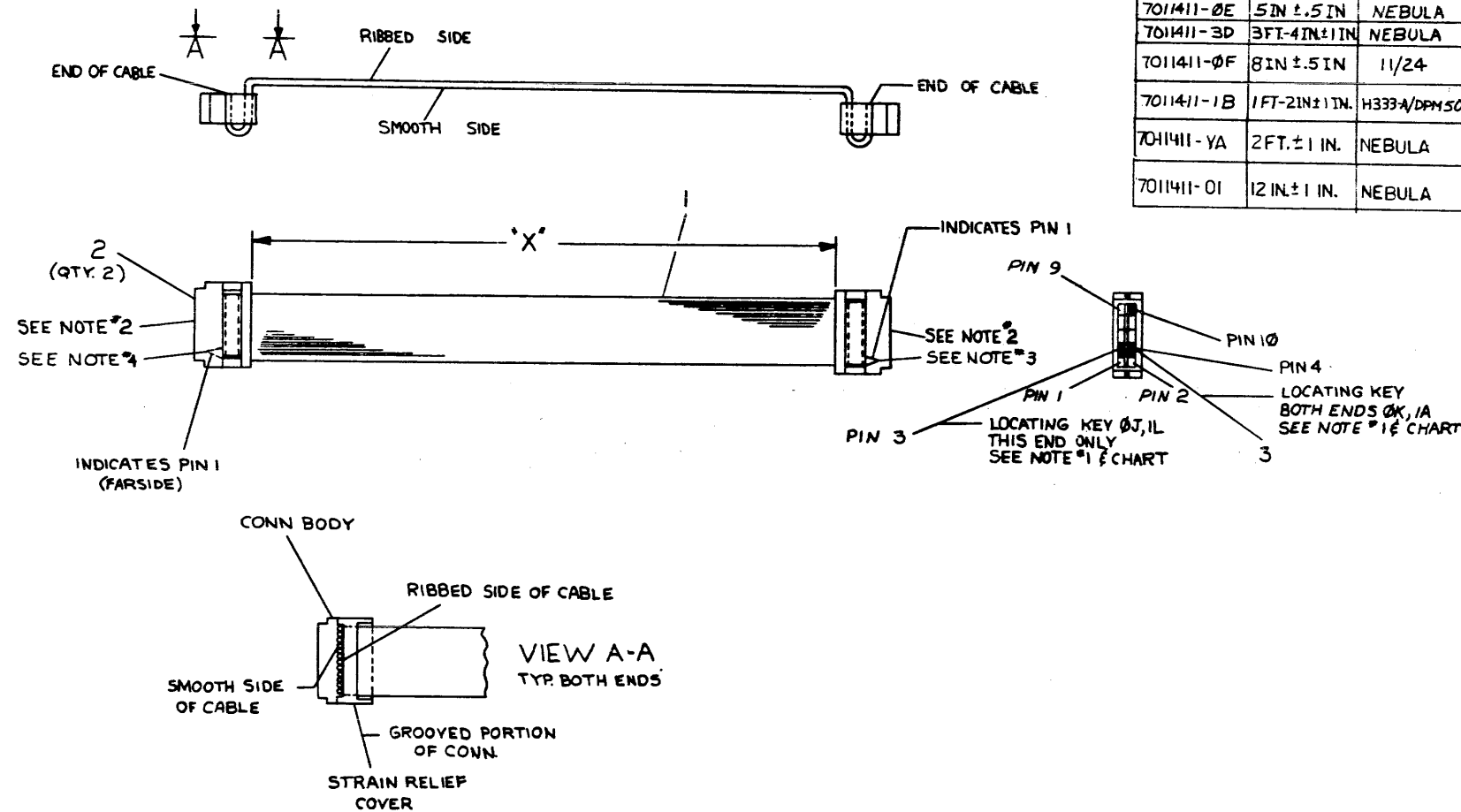
|                             |               |            |                        |
|-----------------------------|---------------|------------|------------------------|
| DESIGNED BY<br>TOM PITMAN   | DATE<br>11/77 | REV.<br>B  | 11/03-L<br>FRONT PANEL |
| CHECKED BY<br>TOM PITMAN    | DATE<br>11/77 | REV.<br>B  |                        |
| PROD. ENG. BY<br>TOM PITMAN | DATE<br>11/77 | REV.<br>B  |                        |
| PROD. ENG. BY<br>TOM PITMAN | DATE<br>11/77 | REV.<br>B  |                        |
| NEXT HIGHER ASSY.           |               |            |                        |
| D-11-5412985-0-0            | SIZE<br>D     | CODE<br>CS | NUMBER<br>5412985-0-1  |
| SCALE<br>1                  | SHEET<br>1    | OF<br>1    | REV.<br>B              |

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| LEGEND     |                      |               |                                |
|------------|----------------------|---------------|--------------------------------|
| NUMBER     | DIM. & VARIATION     | USED ON       | KEY PIN                        |
| 7011411-0J | 8 IN ± .5 IN.        | BA11-L OR K   | PIN 10 ONE END                 |
| 7011411-0K | 9 IN ± .5 IN.        | LS1-11        | PIN 4 BOTH ENDS                |
| 7011411-1D | 1 FT. 4 IN ± .1 IN.  | KY11-LB       |                                |
| 7011411-2D | 2 FT. 4 IN ± .1 IN.  | BA11-F/DO/PF  | PIN 10 ONE END                 |
| 7011411-0H | 7 IN ± .5 IN.        | H787, 1, 2, 3 |                                |
| 7011411-1J | 1 FT. 8 IN ± .1 IN.  | 1104/34-7A    |                                |
| 7011411-1L | 1 FT. 10 IN ± .1 IN. | BA11-L, H777  | PIN 3 ONE END                  |
| 7011411-1A | 1 FT. 1 IN ± .1 IN.  | H787          | PIN 4 BOTH ENDS                |
| 7011411-3J | 3 FT. 8 IN ± .1 IN.  | BA11-K, H785  |                                |
| 7011411-2J | 2 FT. 8 IN ± .1 IN.  | BA11-K-H785   | NO KEY                         |
| 7011411-5F | 5 FT. 6 IN ± .1 IN.  | 1160          | PIN 8 ONE END                  |
| 7011411-12 | 12 FT. ± .3 IN.      | KA570         |                                |
| 7011411-7  | 7 FT. ± .2 IN.       | 11780         |                                |
| 7011411-1C | 1 FT. 3 IN ± .1 IN.  | VT103         | SEE NOTES 3 AND 4              |
| 7011411-2  | 2 FT. ± .1 IN.       | VT103         | SEE NOTES 3 AND 4              |
| 7011411-0E | 5 IN ± .5 IN.        | NEBULA        | PIN 10 BOTH ENDS               |
| 7011411-3D | 3 FT. 4 IN ± .1 IN.  | NEBULA        | PIN 10 BOTH ENDS               |
| 7011411-0F | 8 IN ± .5 IN.        | 11/24         | PIN 3 ONE END<br>PIN 6 ONE END |
| 7011411-1B | 1 FT. 2 IN ± .1 IN.  | H333-A/DPH50  | PIN 4 BOTH ENDS                |
| 7011411-YA | 2 FT. ± .1 IN.       | NEBULA        | PIN 5 BOTH ENDS                |
| 7011411-0I | 12 IN ± .1 IN.       | NEBULA        | PIN 10 BOTH ENDS               |

#### NOTES:

1. INSERT KEY IN PROPER CONNECTOR PIN AND BREAK OFF TAB.
2. FOR ITEM 2) DRAWING IS SHOWING 3M CONNECTOR.
3. FOR -1C AND -2 VARIATIONS, KEY PIN 6.
4. FOR -1C AND -2 VARIATIONS, KEY PIN 5.



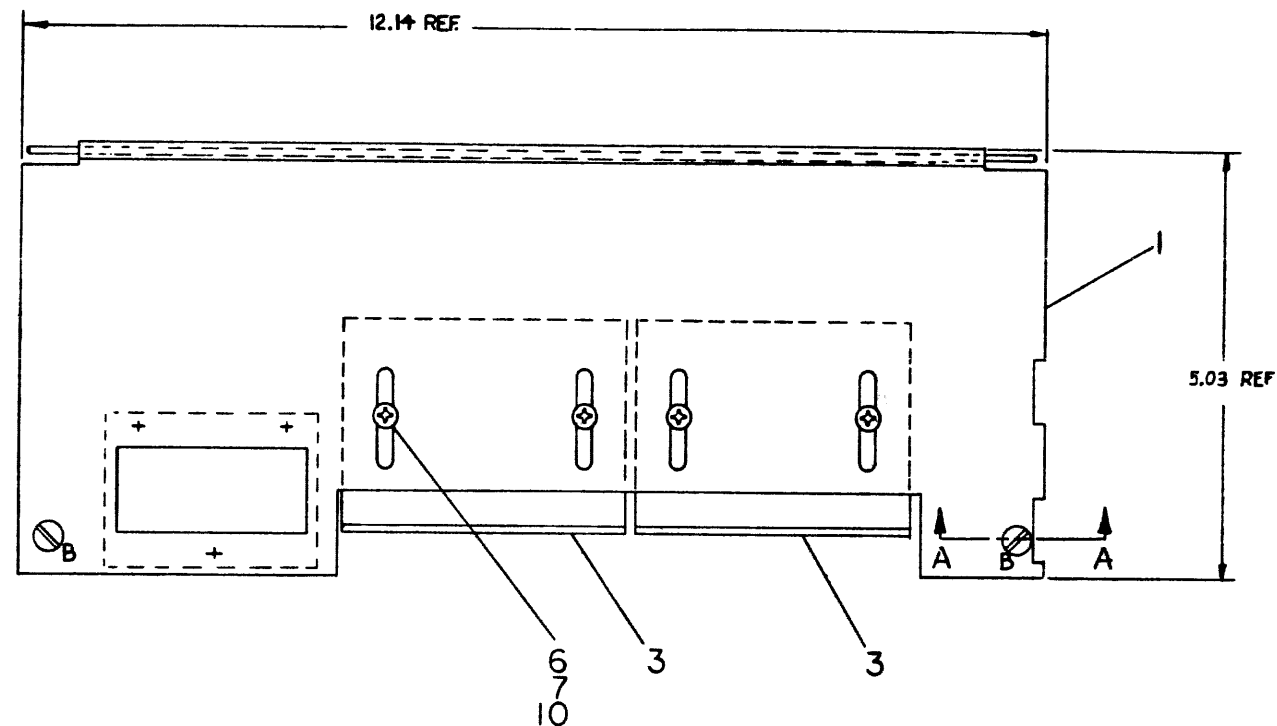
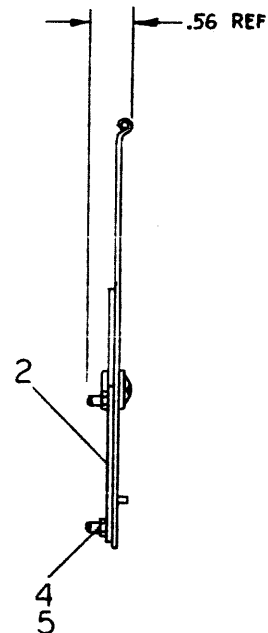
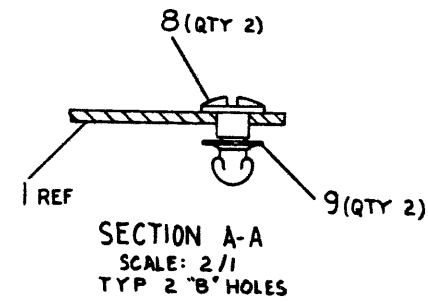
|    |                     |            |   |
|----|---------------------|------------|---|
| 1  | TIE, CABLE          | 9007031    | 5 |
| 1  | LABEL, CABLE IDENT. | 9009532    | 4 |
| AR | KEY                 | 9009707    | 3 |
| 2  | CONN. CRIMP         | 1211206-02 | 2 |
| AR | CABLE, 10 CONDUCT   | 9107747-02 | 1 |

|             |                                                     |                                     |                                           |                                           |                                            |                                             |                                             |                                             |
|-------------|-----------------------------------------------------|-------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| 7011411-0-0 | DESCRIPTION                                         | DWG./PART NO.                       | ITEM NO.                                  |                                           |                                            |                                             |                                             |                                             |
|             | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES |                                     |                                           |                                           |                                            |                                             |                                             |                                             |
|             | ANGLES<br>30° 30'                                   | CLASS OF<br>ACCURACY<br>(CHECK ONE) | NOMINAL DIMENSION RANGE RECORDS           |                                           |                                            |                                             |                                             |                                             |
|             | SURFACE<br>QUALITY<br>IN                            | MEDIUM                              | OVER 2<br>TO 4<br>1.004<br>1.008<br>1.012 | OVER 4<br>TO 6<br>1.004<br>1.008<br>1.012 | OVER 6<br>TO 12<br>1.004<br>1.008<br>1.012 | OVER 12<br>TO 24<br>1.004<br>1.008<br>1.012 | OVER 24<br>TO 48<br>1.004<br>1.008<br>1.012 | OVER 48<br>TO 96<br>1.004<br>1.008<br>1.012 |
|             | QUANTITY & VARIATION                                | PREFERRED                           | 1.012                                     | 1.016                                     | 1.020                                      | 1.024                                       | 1.028                                       | 1.032                                       |
|             | THIRD ANGLE PROJECTION                              | DRM. BAPTIST 5-20-75                | FIRST USED ON                             | SEE LEGEND                                | TITLE<br>CABLE<br>CONSOLE BACKPLANE        |                                             |                                             |                                             |
|             | REMOVE BURRS AND<br>BREAK SHARP CORNERS             | CHK'D HEALY 6-13-75                 | ENG. R. BARRY 6-18-75                     | PROJ. ENGR. BARRY 6-18-75                 | PROD. R. PETERSON 6-18-75                  |                                             |                                             |                                             |
|             | DO NOT SCALE DWG                                    | NEXT HIGHER ASSY.                   |                                           |                                           | SIZE CODE<br>D 1A 7011411-0-0              |                                             |                                             |                                             |
|             | MATERIAL<br>SEE PARTS LIST                          | SCALE<br>NONE                       |                                           |                                           | REV.<br>W                                  |                                             |                                             |                                             |
|             | FINISH                                              | SHEET 1 OF 1                        |                                           |                                           | DST.                                       |                                             |                                             |                                             |

| REV. | CHANGE NO.   | DATE | BY | APP. |
|------|--------------|------|----|------|
| 1    | 7011411-0001 | M    |    |      |
| 2    | 7011411-0002 | N    |    |      |
| 3    | 7011411-0003 | N    |    |      |
| 4    | 7011411-0004 | N    |    |      |
| 5    | 7011411-0005 | N    |    |      |
| 6    | 7011411-0006 | N    |    |      |
| 7    | 7011411-0007 | N    |    |      |
| 8    | 7011411-0008 | N    |    |      |
| 9    | 7011411-0009 | N    |    |      |
| 10   | 7011411-0010 | N    |    |      |
| 11   | 7011411-0011 | N    |    |      |
| 12   | 7011411-0012 | N    |    |      |
| 13   | 7011411-0013 | N    |    |      |
| 14   | 7011411-0014 | N    |    |      |
| 15   | 7011411-0015 | N    |    |      |
| 16   | 7011411-0016 | N    |    |      |
| 17   | 7011411-0017 | N    |    |      |
| 18   | 7011411-0018 | N    |    |      |
| 19   | 7011411-0019 | N    |    |      |
| 20   | 7011411-0020 | N    |    |      |
| 21   | 7011411-0021 | N    |    |      |
| 22   | 7011411-0022 | N    |    |      |
| 23   | 7011411-0023 | N    |    |      |
| 24   | 7011411-0024 | N    |    |      |
| 25   | 7011411-0025 | N    |    |      |
| 26   | 7011411-0026 | N    |    |      |
| 27   | 7011411-0027 | N    |    |      |
| 28   | 7011411-0028 | N    |    |      |
| 29   | 7011411-0029 | N    |    |      |
| 30   | 7011411-0030 | N    |    |      |
| 31   | 7011411-0031 | N    |    |      |
| 32   | 7011411-0032 | N    |    |      |
| 33   | 7011411-0033 | N    |    |      |
| 34   | 7011411-0034 | N    |    |      |
| 35   | 7011411-0035 | N    |    |      |
| 36   | 7011411-0036 | N    |    |      |
| 37   | 7011411-0037 | N    |    |      |
| 38   | 7011411-0038 | N    |    |      |
| 39   | 7011411-0039 | N    |    |      |
| 40   | 7011411-0040 | N    |    |      |
| 41   | 7011411-0041 | N    |    |      |
| 42   | 7011411-0042 | N    |    |      |
| 43   | 7011411-0043 | N    |    |      |
| 44   | 7011411-0044 | N    |    |      |
| 45   | 7011411-0045 | N    |    |      |
| 46   | 7011411-0046 | N    |    |      |
| 47   | 7011411-0047 | N    |    |      |
| 48   | 7011411-0048 | N    |    |      |
| 49   | 7011411-0049 | N    |    |      |
| 50   | 7011411-0050 | N    |    |      |

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DWG. PART NO. 7013804-0-0



|   |                             |                  |    |
|---|-----------------------------|------------------|----|
| 4 | L. WASHER #8                | 9006634-00       | 10 |
| 2 | RETAINER 1/4 TURN           | 9008200-00       | 9  |
| 2 | FASTENER 1/4 TURN           | 9008343-00       | 8  |
| 4 | WASHER FLAT #8              | 9006660-00       | 7  |
| 4 | SCREW, PAN HD. #8-32 X 3/8  | 9006037-01       | 6  |
| 3 | WASHER, FLAT, #6, .032 THK. | 9006653-00       | 5  |
| 3 | KEP NUT #6-32               | 9006560-00       | 4  |
| 2 | STRAIN RELIEF               | C-1A-7418374-0-0 | 3  |
| 1 | WINDOW                      | C-MD-7418375-0-0 | 2  |
| 1 | DOOR                        | D-1A-7013809-0-0 | 1  |

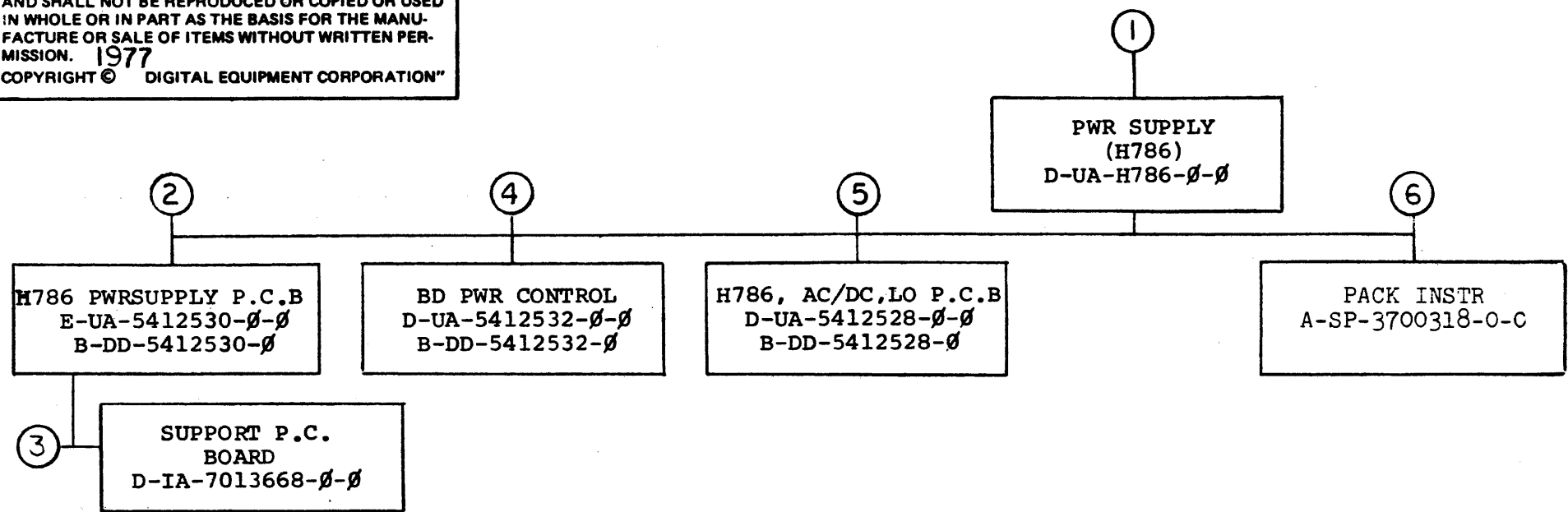
|                                                     |  |                      |  |                                |  |               |  |              |  |
|-----------------------------------------------------|--|----------------------|--|--------------------------------|--|---------------|--|--------------|--|
| THIRD ANGLE PROJECTION                              |  | QUANTITY & VARIATION |  | DESCRIPTION                    |  | DWG. PART NO. |  | ITEM NO.     |  |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES |  | CLAS. OF ACCURACY    |  | NOMINAL DIMENSION RANGE INCHES |  | SURF. QUALITY |  | MICRONES     |  |
| ANGLES 10° 30'                                      |  | CHECK ONE            |  | SURF. QUALITY IN               |  | MICRONES      |  | PREFERRED    |  |
| DO NOT SCALE DWG                                    |  | NEXT HIGHER ASSY.    |  | MATERIAL SEE PARTS LIST        |  | SCALE NONE    |  | SHEET 1 OF 1 |  |
| FIRST USED ON                                       |  | TITLE                |  | SIZE                           |  | CODE          |  | NUMBER       |  |
| E-1A-BAIL-N-0                                       |  | DOOR ASSEMBLY        |  | D                              |  | AD            |  | 7013804-0-0  |  |
| REV.                                                |  | REV.                 |  | REV.                           |  | REV.          |  | REV.         |  |

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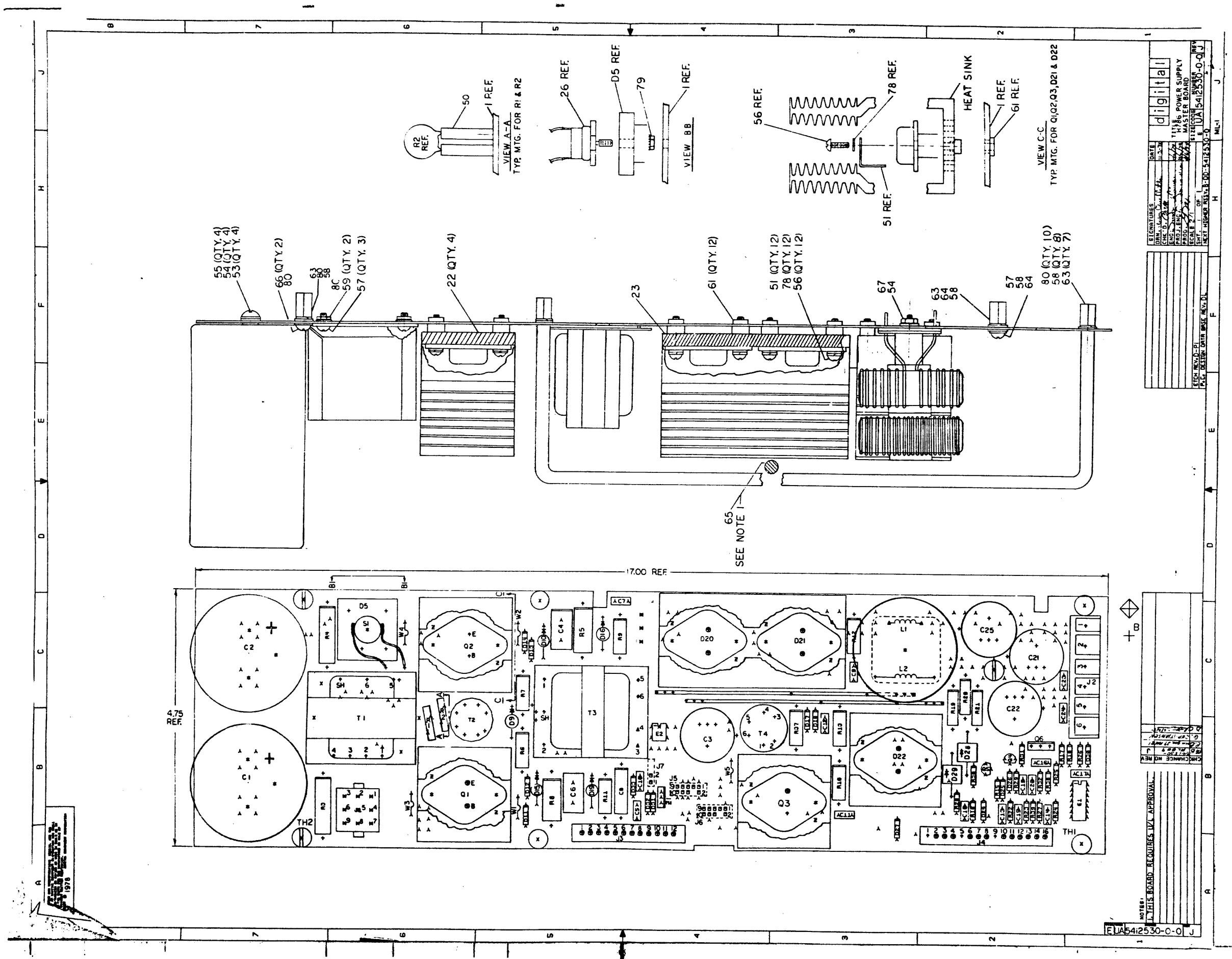
ML-1



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NOTES:  
1. THIS BOARD REQUIRES I/V APPROVAL.

1700 REF.

4.75 REF.

65 SEE NOTE 1

VIEW A-A  
TYP. MTG. FOR R1 & R2

VIEW B-B  
TYP. MTG. FOR Q1, Q2, Q3, D21 & D22

HEAT SINK  
TYP. MTG. FOR Q1, Q2, Q3, D21 & D22

digital

11186 POWER SUPPLY  
MASTER BOARD  
EUA5412530-0-0

DATE: 11/21/71  
BY: J. J. J.  
CHKD: J. J. J.  
APP'D: J. J. J.  
REV: 1

ETCH NO. 0-01  
P.C. BOARD DATA SHEET REV. D1

ML-1

**SHEET A1 OF A3**

| REVISION HISTORY |               |     | BASIC PART NO: 5412530  |  | DRN: R.KOPPENAL        |  | DATE: 01-FEB-78      |  | D I G I T A L        |  |  |  |
|------------------|---------------|-----|-------------------------|--|------------------------|--|----------------------|--|----------------------|--|--|--|
| ENG              | ECO NUMBER    | REV | SECTION A OF A          |  | CHK'D: K.GLEEZEN       |  | DATE: 01-FEB-78      |  | TITLE PARTS LIST     |  |  |  |
| P.G              | 00003         | E   | SECTION VARIATION INDEX |  | CHK'D: K.GLEEZEN       |  | DATE: 01-FEB-78      |  | MASTER BOARD         |  |  |  |
| KG               | 00004         | F   | [A] 00                  |  |                        |  |                      |  |                      |  |  |  |
| DC               | 5412530-MLO05 | H   | [B]                     |  | DES.ENG: J.GREGORICH   |  | DATE: 01-FEB-78      |  |                      |  |  |  |
| GC               | 5412530-MLO06 | J   | [C]                     |  |                        |  |                      |  |                      |  |  |  |
| GC               | 5412530-MLO07 | K   | [D]                     |  |                        |  |                      |  |                      |  |  |  |
| GC               | 5412530-MLO08 | L   | [E]                     |  | RESP.ENG.: J.GREGORICH |  | DATE: 01-FEB-78      |  | DOCUMENT NUMBER      |  |  |  |
| G.C              | 5412530-MLO09 | M   | [F]                     |  |                        |  |                      |  |                      |  |  |  |
|                  |               |     | [H]                     |  | MFG.ENG.: R.HAMILTON   |  | DATE: 01-FEB-78      |  | SIZE CODE NUMBER REV |  |  |  |
|                  |               |     | [J]                     |  |                        |  |                      |  |                      |  |  |  |
|                  |               |     | [K]                     |  |                        |  |                      |  |                      |  |  |  |
|                  |               |     | [L]                     |  | ASSEMBLY NUMBER:       |  | TOP DOCUMENT NUMBER: |  | FILE NAME: EDIT #    |  |  |  |
|                  |               |     | [M]                     |  | E-UA-5412530-0-0       |  |                      |  | 20613M.PLS 17        |  |  |  |
|                  |               |     | [N]                     |  |                        |  |                      |  |                      |  |  |  |

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| LINE | ITEM | DOCUMENT NUMBER  | PART NUMBER | DESCRIPTION                        | QTY PER VARIATION<br>00 | REFERENCE DESIGNATOR |
|------|------|------------------|-------------|------------------------------------|-------------------------|----------------------|
| 31   | 31   |                  | 1110488-00  | 1N 4733 VZ= 5.1 10% 1W N           | 1                       | D18                  |
| 32   | 32   |                  | 1301499-00  | 1.0 K 1.0 W10.0 % CC               | 2                       | R9,R12               |
| 33   | 33   |                  | 1300232-00  | 100.0 1.0 W 5.0 % CC               | 2                       | R10,R13              |
| 34   | 34   |                  | 1314239-00  | 33.0 3.0 W 5.0 % WW                | 1                       | R11                  |
| 35   | 35   |                  | 1310632-00  | 2.37 K .25 W 1.0 % RN550-F10       | 2                       | R15,R17              |
| 36   | 36   |                  | 1303044-00  | 100.0 K .25 W 1.0 % RN550-F10      | 1                       | R16                  |
| 37   | 37   |                  | 1304843-00  | 243.0 K .25 W 1.0 % RN550-F10      | 1                       | R18                  |
| 38   | 38   |                  | 1313014-00  | .01 3.75 W 3.0 % WW                | 3                       | R19-R21              |
| 39   | 39   |                  | 1300365-00  | 1.0 K .25 W 5.0 % CC               | 3                       | R22,R25,R32          |
| 40   | 40   |                  | 1309595-00  | 1.0 M .25 W 5.0 % CC               | 4                       | R23,R26,R38,R39      |
| 41   | 41   |                  | 1302666-00  | 10.0 M .25 W 5.0 % CC              | 2                       | R24,R27              |
| 42   | 42   |                  | 1300202-00  | 47.0 .25 W 5.0 % CC                | 2                       | R28,R29              |
| 43   | 43   |                  | 1301317-00  | 10.0 .25 W 5.0 % CC                | 2                       | R30,R31              |
| 44   | 44   |                  | 1614274-00  | XFMR P=AB S=87V                    | 1                       | T1                   |
| 45   | 45   |                  | 1614272-00  | PULSE XFMR 4 WOUND                 | 1                       | T2                   |
| 46   | 46   |                  | 1614275-00  | XFMR P=200-375V S=5V@3.5A          | 1                       | T3                   |
| 47   | 47   |                  | 1614273-00  | PULSE XFMR,TRI-WOUND               | 1                       | T4                   |
| 48   | 48   |                  | 1614261-00  | 24.0 UH-80UH DUAL INDUCTOR         | 1                       | L1                   |
| 49   | 49   |                  | 1912048-02  | DEC 7812 VOLT REG, FIX +12V        | 1                       | Z1                   |
| 50   | 50   |                  | 9009798-00  | SPACER, CERAMIC .186 ODX.078 ID    | 4                       |                      |
| 51   | 51   |                  | 9009676-00  | TERM LUG 1POS SOLDER               | 12                      |                      |
| 52   | 52   |                  | 9009149-00  | PIN, STAKING, P.C. BOARD, .025 X   | 20                      | J5-J7                |
| 53   | 53   |                  | 9006071-01  | SCREW, PAN, PHIL 10-32X 3/8 SS     | 4                       |                      |
| 54   | 54   |                  | 9006660-00  | WASHER, FLAT, .375 O.D. X .187 I   | 5                       |                      |
| 55   | 55   |                  | 9006636-00  | WASHER, LOCK, INT, .38000 X .200ID | 4                       |                      |
| 56   | 56   |                  | 9007794-01  | SCREW, PAN, PHIL 6-32X 11/16SS     | 12                      |                      |
| 57   | 57   |                  | 9006021-01  | SCREW, PAN, PHIL 6-32X 5/16 SS     | 3                       |                      |
| 58   | 58   |                  | 9006633-00  | WASHER, LOCK, INT, .28000 X .146ID | 8                       |                      |
| 59   | 59   |                  | 9008185-00  | NUT, KEP 6-32X1/4 AF               | 2                       |                      |
| 60   | 60   | D-1A-7013668-0-0 | 7013668-00  | P.C. BOARD STIFFENER               | 1                       |                      |
| 61   | 61   |                  | 1214789-00  | INSERT, THREADED 6-32, BRASS, ELEC | 12                      |                      |
| 62   | 62   |                  | 9009947-00  | *** THIS ITEM IS NOT USED ***      | -                       |                      |
| 63   | 63   |                  | 9006844-00  | SPACER, HEX, THD'D, ALUM 6-32X 3   | 7                       |                      |
| 64   | 64   |                  | 9006653-00  | WASHER, FLAT, .375 O.D. X .156 I   | 2                       |                      |
| 65   | 65   |                  | 9107240-00  | WRAP, CABLE, .25000 VINYL          | A/R                     |                      |
| 66   | 66   |                  | 9006020-01  | SCREW, PAN, PHIL 6-32X 1/4 SS      | 2                       |                      |
| 67   | 67   |                  | 9006565-00  | NUT, KEP 10-32X 3/8 AF             | 1                       |                      |
| 68   | 68   |                  | 1114543-00  | UES2602 PIV=100 I=20A T03          | 2                       | D20,D21              |
| 69   | 69   |                  | 1114246-00  | UES-2603 PIV=150 I=30A T03         | 1                       | D22                  |
| 70   | 70   |                  | 1111205-00  | SCREENED VZ= 5.7 2% .40W           | 1                       | D24                  |
| 71   | 71   |                  | 1109988-00  | 1N 9648 VZ= 13.0 5% .40W           | 1                       | D26                  |
| 72   | 72   |                  | 1110615-00  | MR 752 PIV=200 I=22A A264 SM       | 2                       | D28,D29              |
| 73   | 73   |                  | 1517910-00  | 2N 6547 NPN T0-3                   | 2                       | Q1,Q2                |
| 74   | 74   |                  | 1510969-00  | 2N 5038 NPN 140WC SI 90 50 Y       | 1                       | Q3                   |
| 75   | 75   |                  | 1510877-00  | 2N 6028 UJT 300MW R678             | 2                       | Q4,Q5                |
| 76   | 76   |                  | 1505867-00  | 2N 4441 SCRD 50V & 8A              | 1                       | Q6                   |
| 77   | 77   |                  | 9107460-22  | WIRE STAND, 20AWG, IPVC UL1429     | A/R                     | W1-W5                |
| 78   | 78   |                  | 9007801-00  | WASHER, LOCK, S.S. #6              | 12                      |                      |

|   |   |   |   |   |   |   |       |              |                |      |      |                 |     |
|---|---|---|---|---|---|---|-------|--------------|----------------|------|------|-----------------|-----|
| D | I | G | I | T | A | L | TITLE | MASTER BOARD | SECTION A OF A | SIZE | CODE | DOCUMENT NUMBER | REV |
|   |   |   |   |   |   |   |       |              |                | K    | PL   | 5412530-0-DBP   | M   |

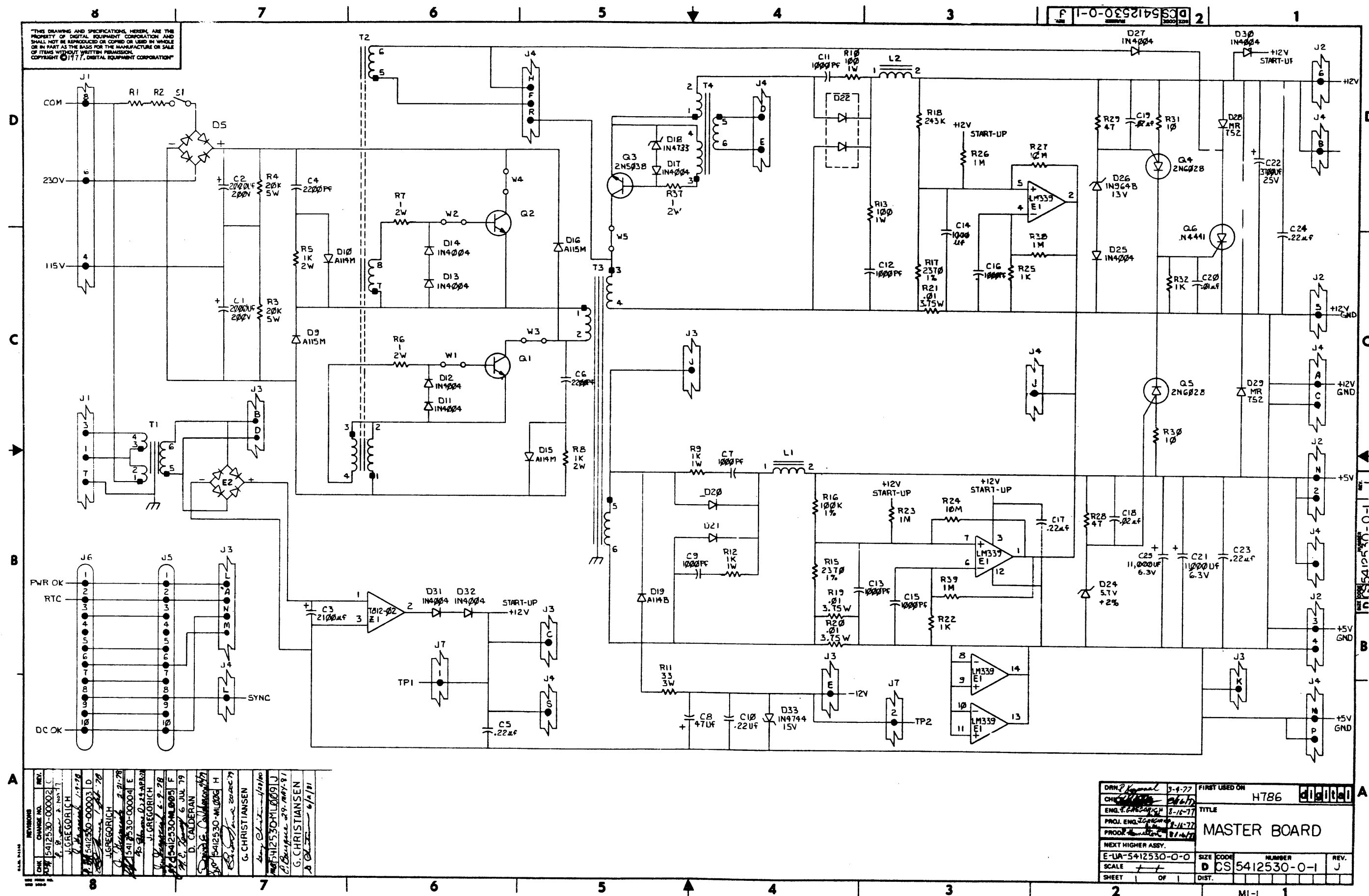
AUTOMATED BY PRTLST.1D(7)

PARTS LIST

SHEET A3 OF A3

| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION                      | QTY PER VARIATION | REFERENCE DESIGNATOR |
|------|------|-----------------|-------------|----------------------------------|-------------------|----------------------|
| 79   | 79   |                 | 9006563-00  | NUT, KEP                         | 1                 |                      |
| 80   | 80   |                 | 9006656-00  | WASHER, FLAT, .312 O.D. X .156 I | 10                |                      |
| 81   | 81   |                 | 1115369-00  | VM 18 PIV=100 I=1A               | 1                 | E2                   |

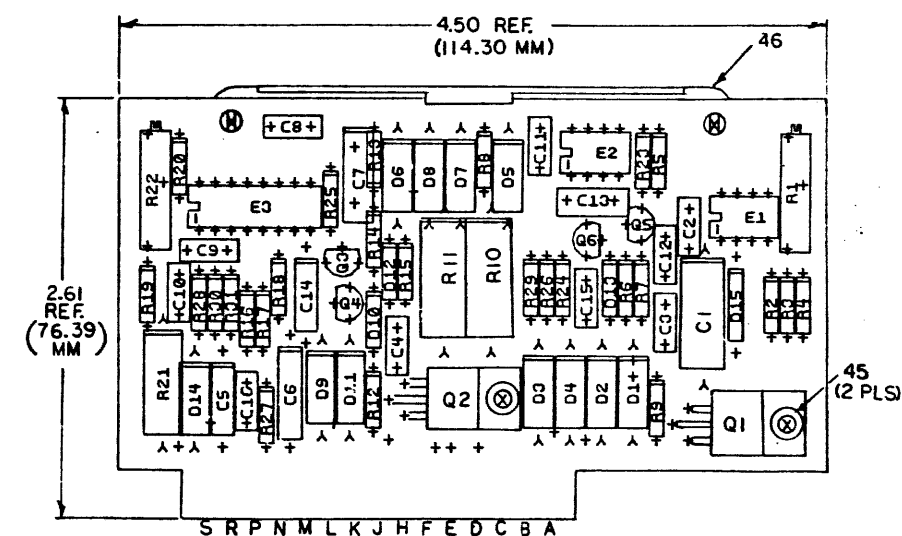
|   |   |   |   |   |   |   |       |              |                |      |      |                 |     |
|---|---|---|---|---|---|---|-------|--------------|----------------|------|------|-----------------|-----|
| D | I | G | I | T | A | L | TITLE | MASTER BOARD | SECTION A OF A | SIZE | CODE | DOCUMENT NUMBER | REV |
|   |   |   |   |   |   |   |       |              |                | K    | PL   | 5412530-0-06P   | M   |







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**NOTES:**

- NOTES:
- |                                       |
|---------------------------------------|
| 1. THIS BOARD REQUIRES U/L APPROVAL.  |
| 2. THIS BOARD WILL NOT BE GR. TESTED. |

| CHECK | CHANGE NO              | REV           |
|-------|------------------------|---------------|
|       | ML004                  | H             |
|       | WID POWERS             |               |
|       | D.CALDERAN             |               |
|       | Devised <i>AD/2000</i> |               |
|       | 5412332 -              | J             |
|       | ML005                  |               |
|       | <i>Figure 4 8-17</i>   |               |
|       | D.CALDERAN             |               |
|       | <i>D.Calderan</i>      | <i>4/8/98</i> |

ETCH REV. E-P1  
P.C. DESIGN DATA BASE REV. E

|                                    |  |          |                    |      |             |    |
|------------------------------------|--|----------|--------------------|------|-------------|----|
| SIGNATURES                         |  | DATE     | digital            |      |             |    |
| DRN. Andy Omeltta                  |  | 10-30-78 |                    |      |             |    |
| CHK. D. J. Maccian                 |  | 10/30/78 |                    |      |             |    |
| ENG. David E. Casper               |  | 10/28/78 | TITLE              |      |             |    |
| PROJ. ENC. D. J. Maccian           |  | 10/28/78 | H786 CONTROL BOARD |      |             |    |
| PROD. D. J. Maccian (dist)         |  | 10-2-79  |                    |      |             |    |
| SCALE 2:1                          |  |          | SIZE               | CODE | NUMBER      | RE |
| SHT. 1 OF 1                        |  |          | D                  | JA   | 5412532-0-0 | J  |
| NEXT HIGHER ASSY. R-00-5412532-0-0 |  |          |                    |      |             |    |

1 MS#104582

| LINE | ITEM | DOCUMENT NUMBER  | PART NUMBER | DESCRIPTION                   | QTY PER VARIATION<br>00 | REFERENCE DESIGNATOR |
|------|------|------------------|-------------|-------------------------------|-------------------------|----------------------|
| 1    | 1    | D-MD-5012531-0-0 | 5012531-00  | 5412532                       | 1                       |                      |
| 2    | 2    |                  | 1013669-02  | .10 MFD 150V 5% M.POLYPROP    | 1                       | C1                   |
| 3    | 3    |                  | 1000009-00  | 33.0 MMF 100V 5%200PPM MICA   | 1                       | C2                   |
| 4    | 4    |                  | 1000055-00  | 2200.0 MMF 250V 20% Y5S DISC  | 2                       | C3,C4                |
| 5    | 5    |                  | 1002627-00  | 2.2MFD 20V 10% S.TANT         | 1                       | C5                   |
| 6    | 6    |                  | 1005784-00  | .01 MFD 100V 200V 10% MYL     | 1                       | C6                   |
| 7    | 7    |                  | 1010274-00  | .22 MFD 50V +80-20% Z5U CER   | 4                       | C8,C10-C12           |
| 8    | 8    |                  | 1000042-00  | 1000.0 MMF 100V 5%200PPM MICA | 1                       | C13                  |
| 9    | 9    |                  | 1000016-00  | 100.0 MMF 100V 5%200PPM MICA  | 3                       | C9,C15,C16           |
| 10   | 10   |                  | 1005328-00  | .33 MFD 20V 10% S.TANT        | 1                       | C14                  |
| 11   | 11   |                  | 1112595-00  | A114F PIV= 50 I= 1A           | 4                       | D1-D3,D5             |
| 12   | 12   |                  | 1112595-01  | A114B PIV=200 I= 1A           | 7                       | D4,D6-D9,D11,D14     |
| 13   | 13   |                  | 1100114-00  | D 664 QS\75PCB PIV= 25V SP    | 3                       | D10,D12,D13          |
| 14   | 14   |                  | 1109991-01  | 4M6.8AZ1 VZ= 6.8 1% .40W      | 1                       | D15                  |
| 15   | 15   |                  | 1309143-07  | 1.0 K .75 W10.0 % POT         | 2                       | R1,R22               |
| 16   | 16   |                  | 1304868-00  | 2.74 K .25 W 1.0 % RN55D-F10  | 1                       | R2                   |
| 17   | 17   |                  | 1304833-00  | 1.96 K .25 W 1.0 % RN55D-F10  | 1                       | R3                   |
| 18   | 18   |                  | 1302391-00  | 20.0 K .25 W 5.0 % CC         | 1                       | R4                   |
| 19   | 19   |                  | 1303187-00  | *** THIS ITEM IS NOT USED *** | -                       |                      |
| 20   | 20   |                  | 1300271-00  | 220.0 .25 W 5.0 % CC          | 2                       | R6,R14               |
| 21   | 21   |                  | 1301317-00  | 10.0 .25 W 5.0 % CC           | 3                       | R7,R15,R25           |
| 22   | 22   |                  | 1300417-00  | 2.20 K .25 W 5.0 % CC         | 1                       | R8                   |
| 23   | 23   |                  | 1300219-00  | 68.0 .25 W 5.0 % CC           | 2                       | R9,R12               |
| 24   | 24   |                  | 1300288-00  | 270.0 2.0 W10.0 % CC          | 2                       | R10,R11              |
| 25   | 25   |                  | 1300365-00  | 1.0 K .25 W 5.0 % CC          | 2                       | R13,R26              |
| 26   | 26   |                  | 1309680-00  | 2.70 M .25 W 5.0 % CF         | 2                       | R16,R17              |
| 27   | 27   |                  | 1305114-00  | 3.48 K .25 W 1.0 % RN55D-F10  | 1                       | R18                  |
| 28   | 28   |                  | 1309413-00  | 3.83 K .25 W 1.0 % RN55D-F10  | 2                       | R19,R20              |
| 29   | 29   |                  | 1314239-00  | 33.0 3.0 W 5.0 % WW           | 1                       | R21                  |
| 30   | 30   |                  | 1300426-00  | 2.70 K .25 W 5.0 % CC         | 1                       | R23                  |

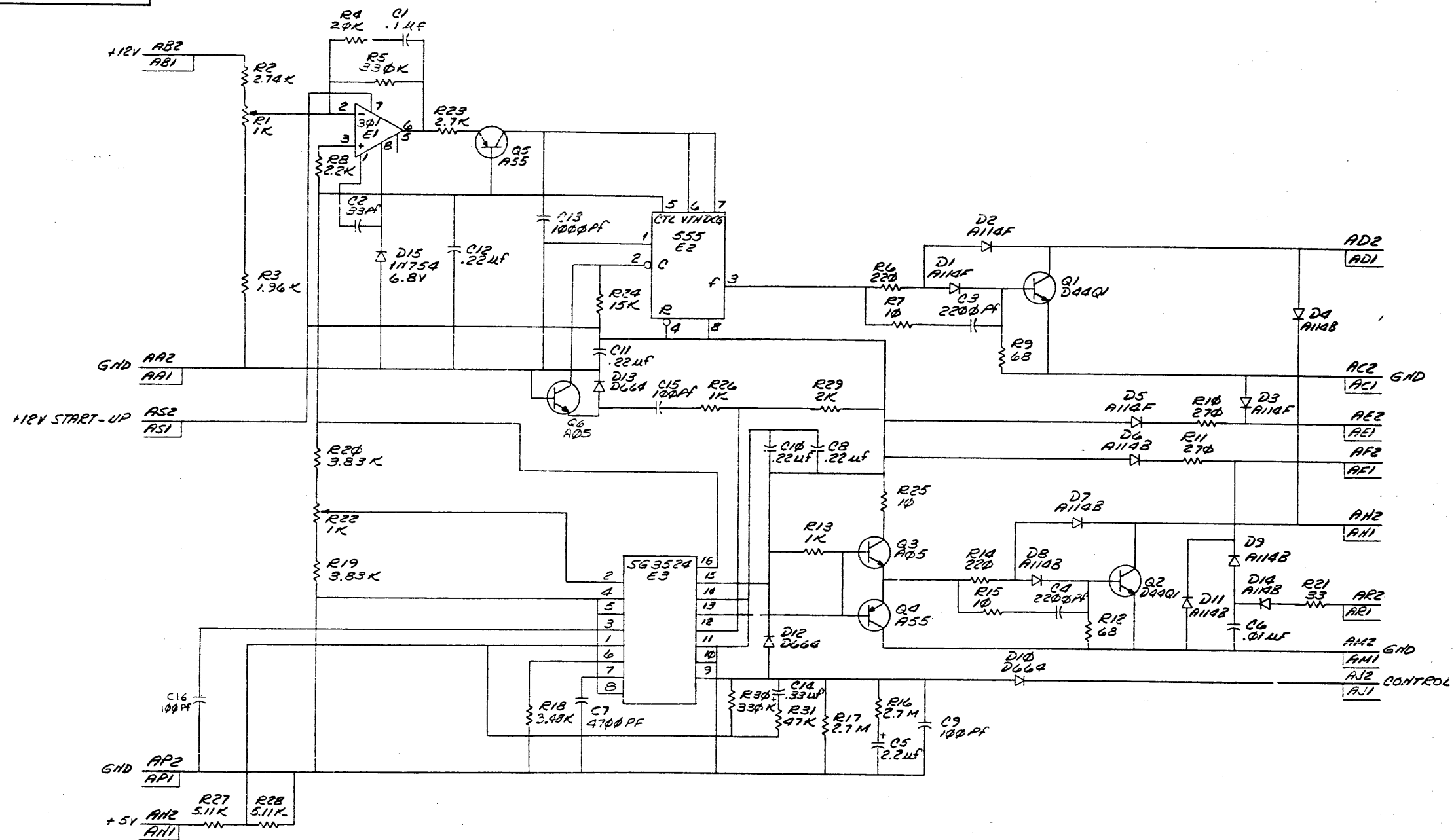
| REVISION HISTORY |               |     | BASIC PART NO: 5412532  |                  |              |                      |                      |                    |
|------------------|---------------|-----|-------------------------|------------------|--------------|----------------------|----------------------|--------------------|
| ENG              | ECO NUMBER    | REV | SECTION A OF A          | DRN:             | R.BUREAU     | DATE: 16-FEB-78      | D I G I T A L        |                    |
| P.G              | 000003        | F   | SECTION.VARIATION INDEX | CHK'D:           | K.GLEASER    | DATE: 16-FEB-78      | TITLE PARTS LIST     |                    |
| ---              | 5412532-ML004 | H   | [A] 00                  |                  |              |                      | CONTROL BOARD        |                    |
| D.C              | 5412532-ML005 | J   | [B]                     | DES.ENG:         | J. GREGORICH | DATE: 16-FEB-78      |                      |                    |
| D.C              | 5412532-ML006 | K   | [C]                     |                  |              |                      | DOCUMENT NUMBER      |                    |
|                  |               |     | [D]                     | RESP.ENG.:       | J.GREGORICH  | DATE: 16-FEB-78      |                      |                    |
|                  |               |     | [E]                     |                  |              |                      | SIZE CODE NUMBER REV |                    |
|                  |               |     | [F]                     |                  |              |                      |                      |                    |
|                  |               |     | [G]                     |                  |              |                      |                      |                    |
|                  |               |     | [H]                     |                  |              |                      |                      |                    |
|                  |               |     | [I]                     |                  |              |                      |                      |                    |
|                  |               |     | [J]                     |                  |              |                      |                      |                    |
|                  |               |     | [K]                     | MFG.ENG.:        | R.HAMILTON   | DATE: 16-FEB-78      | K                    | PL 5412532-0-DBP K |
|                  |               |     | [L]                     |                  |              |                      |                      |                    |
|                  |               |     | [M]                     | ASSEMBLY NUMBER: |              | TOP DOCUMENT NUMBER: | FILE NAME:           | EDIT #             |
|                  |               |     | [N]                     | D-UA-5412532-0-0 |              |                      | Z0353K.PLS           | 12                 |

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| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION                   | QTY PER VARIATION |  | REFERENCE DESIGNATOR |
|------|------|-----------------|-------------|-------------------------------|-------------------|--|----------------------|
|      |      |                 |             |                               | 00                |  |                      |
| 31   | 31   |                 | 1300496-00  | 15.0 K .25 W 5.0 % CC         | 1                 |  | R24                  |
| 32   | 32   |                 | 1304854-00  | 5.11 K .25 W 1.0 % RN55D-F10  | 2                 |  | R27,R28              |
| 33   | 33   |                 | 1302388-00  | 2.0 K .25 W 5.0 % CC          | 1                 |  | R29                  |
| 34   | 34   |                 | 1302091-00  | 330.0 K .25 W 5.0 % CC        | 2                 |  | R30,R5               |
| 35   | 35   |                 | 1302177-00  | 47.0 K .25 W 5.0 % CC         | 1                 |  | R31                  |
| 36   | 36   |                 | 1514271-00  | D 44Q1 NPN 31W SI             | 2                 |  | Q1,Q2                |
| 37   | 37   |                 | 1510705-00  | XA 05 NPN 500MW SI 60 50 P    | 2                 |  | Q3,Q6                |
| 38   | 38   |                 | 1510706-00  | XA 55 PNP 500MW SI 60 50 P    | 2                 |  | Q4,Q5                |
| 39   | 39   |                 | 1910282-00  | 301AN OP AMP                  | 1                 |  | E1                   |
| 40   | 40   |                 | 1911944-00  | 555CN TIMER,FUNCT.BLOCK       | 1                 |  | E2                   |
| 41   | 41   |                 | 1914250-00  | 3524 MODULATOR-REGULATING     | 1                 |  | E3                   |
| 42   | 42   |                 | 9009000-00  | *** THIS ITEM IS NOT USED *** | -                 |  |                      |
| 43   | 43   |                 | 1001383-00  | 4700.0 MMF 100V 3%200PPM MICA | 1                 |  | C7                   |
| 44   | 44   |                 | 7418695-00  | *** THIS ITEM IS NOT USED *** | -                 |  |                      |
| 45   | 45   |                 | 9006732-00  | EYELET,ROLLED 0.1210DX0.219   | 2                 |  |                      |
| 46   | 46   |                 | 1215993-00  | RETAINER, CARD                | 1                 |  |                      |

|   |   |   |   |   |   |   |               |                |      |      |                 |     |
|---|---|---|---|---|---|---|---------------|----------------|------|------|-----------------|-----|
| D | I | G | I | T | A | L | TITLE         | SECTION A OF A | SIZE | CODE | DOCUMENT NUMBER | REV |
|   |   |   |   |   |   |   | CONTROL BOARD |                | K    | PL   | 5412532-0-DBP   | K   |

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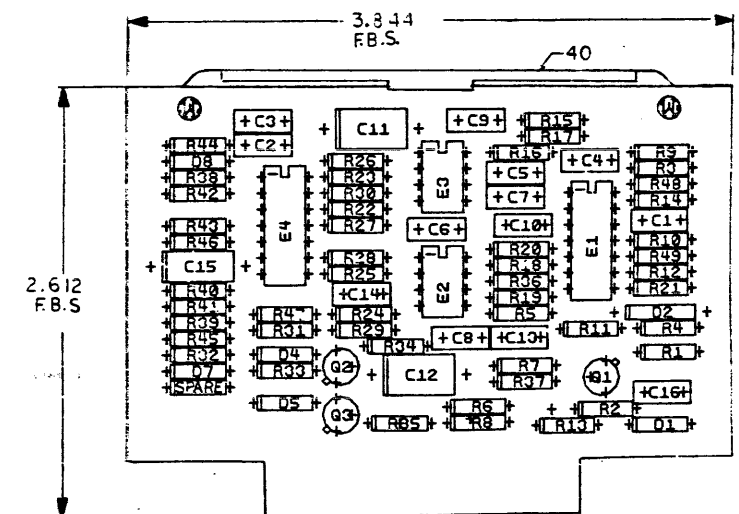
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| DRN. 412532-0-1       | FIRST USED ON H783 | digital     |
| CHK. 412532-0-1       | TITLE              |             |
| ENG. 412532-0-1       | CONTROL BOARD      |             |
| PROJ. ENG. 412532-0-1 |                    |             |
| PROD. 412532-0-1      |                    |             |
| NEXT HIGHER ASSY.     |                    |             |
| 0-412532-0-0          | SIZE CODE          | NUMBER      |
| SCALE                 | D CS               | 5412532-0-1 |
| SHEET 1 OF 1          | DIST.              | REV. H      |

| REV. | CHANGE NO. | DATE    | BY          | CHK.        |
|------|------------|---------|-------------|-------------|
| 1    | 1          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 2    | 2          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 3    | 3          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 4    | 4          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 5    | 5          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 6    | 6          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 7    | 7          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 8    | 8          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 9    | 9          | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 10   | 10         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 11   | 11         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 12   | 12         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 13   | 13         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 14   | 14         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 15   | 15         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 16   | 16         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 17   | 17         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 18   | 18         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 19   | 19         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 20   | 20         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 21   | 21         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 22   | 22         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 23   | 23         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 24   | 24         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 26   | 26         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 28   | 28         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 29   | 29         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 30   | 30         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 31   | 31         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 34   | 34         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 35   | 35         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 36   | 36         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 37   | 37         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 47   | 47         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 56   | 56         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 57   | 57         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 63   | 63         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 64   | 64         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 65   | 65         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 67   | 67         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 68   | 68         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 70   | 70         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 72   | 72         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 73   | 73         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 74   | 74         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 75   | 75         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 76   | 76         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 77   | 77         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 83   | 83         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 87   | 87         | 10/1/77 | D. CALDERAN | D. CALDERAN |
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| 93   | 93         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 94   | 94         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 95   | 95         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 96   | 96         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 97   | 97         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 98   | 98         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 99   | 99         | 10/1/77 | D. CALDERAN | D. CALDERAN |
| 100  | 100        | 10/1/77 | D. CALDERAN | D. CALDERAN |



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COMPONENT SIDE VIEW

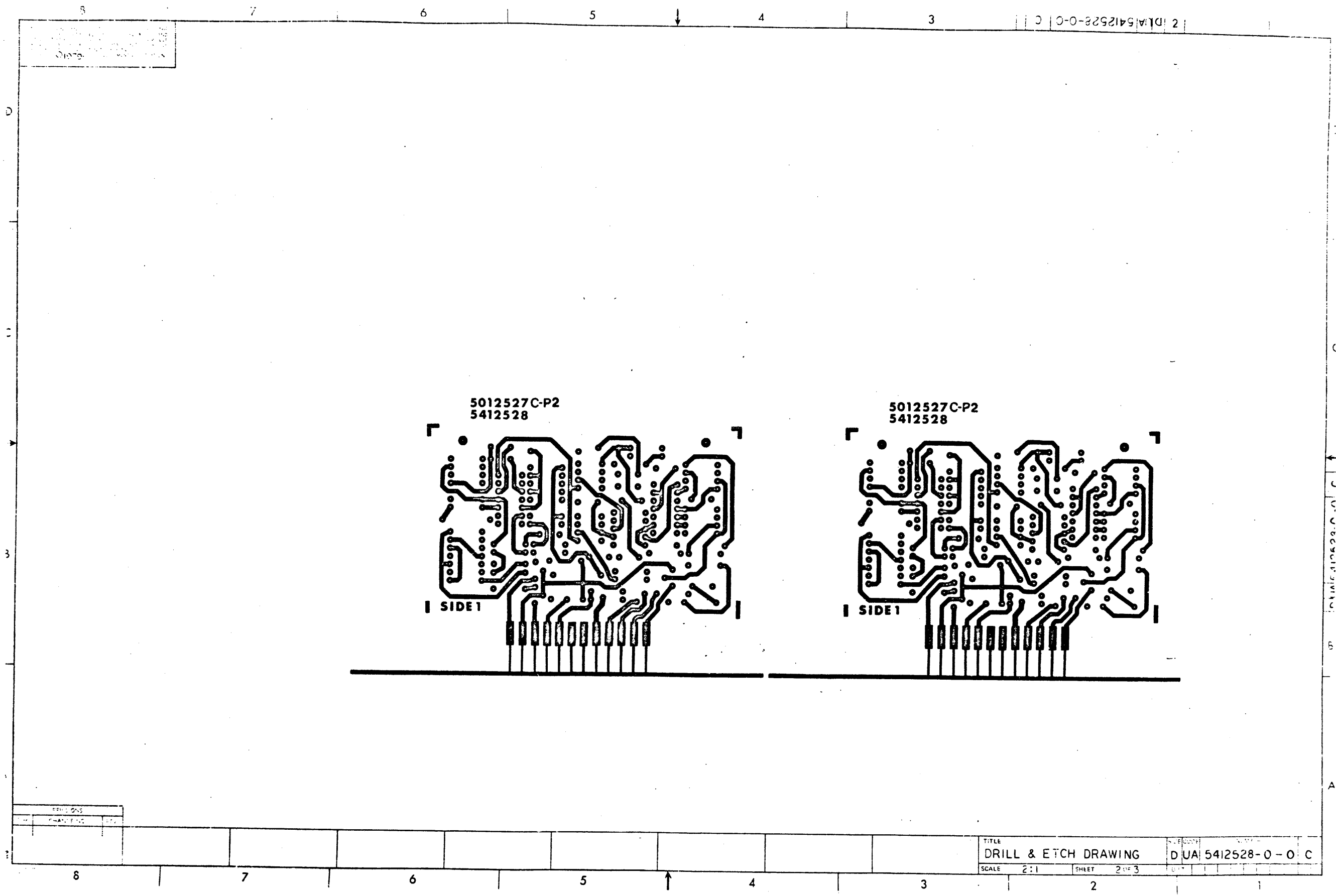


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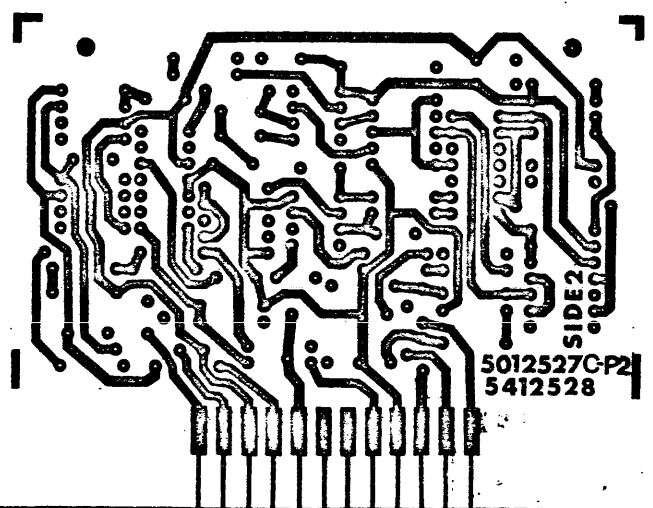
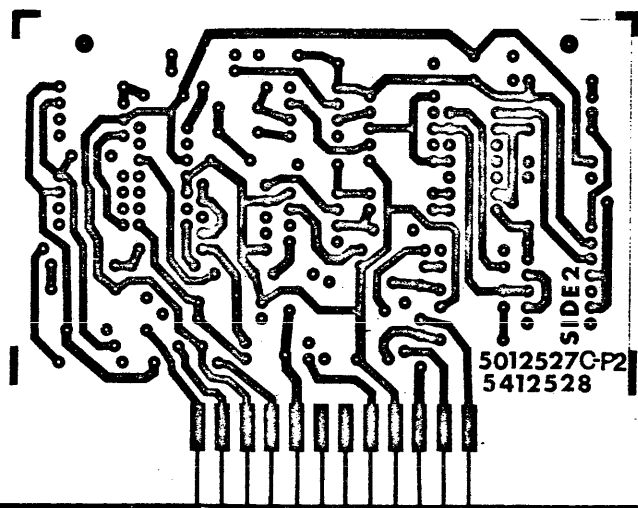
| CHG      | CHANGE NO | REV |
|----------|-----------|-----|
| GL       | MLOOZ     | C   |
| POWERS   |           |     |
| CALDERAN |           |     |
| DE       |           |     |

|                              |
|------------------------------|
| ETCH REV. C-P2               |
| P.C. DESIGN DATA BASE REV. C |

| SIGNATURES                       | DATE           | digital |
|----------------------------------|----------------|---------|
| DRN.D. POWERS                    | 4-20-79        |         |
| CHK'D. <i>[Signature]</i>        | 5-2-79         |         |
| ENG. <i>[Signature]</i>          | 5-2-79         |         |
| PROJ. ENG. <i>[Signature]</i>    | 5-2-79         |         |
| SCALE 2/1                        |                |         |
| SHT. 1 OF 3                      |                |         |
| NEXT HIGHER ASSY. C-DD-5412528-0 |                |         |
| TITLE                            | H786           |         |
| POWER MONITOR                    |                |         |
| SIZE CODE                        | 0              |         |
| NUMBER                           | UA 5412528-0-0 |         |
| REV                              | C              |         |



REV 001



D  
C  
B  
A

|      |         |
|------|---------|
| REV  | 001     |
| DATE | 10-0-82 |

|   |   |   |   |   |   |   |   |
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| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
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|       |                      |           |      |        |             |      |   |
|-------|----------------------|-----------|------|--------|-------------|------|---|
| TITLE | DRILL & ETCH DRAWING | SIZE CODE | D UA | NUMBER | 5412528-0-0 | REV  | C |
| SCALE | 2/1                  | SHEET     | 3    | OF     | 3           | JUST |   |



AUTOMATED BY PRTLST.3J(25)

## P A R T S   L I S T

SHEET A1 OF A2

| LINE | ITEM | DOCUMENT NUMBER  | PART NUMBER | DESCRIPTION                   | QTY<br>UU | PER VARIATION | REFERENCE DESIGNATOR                             |
|------|------|------------------|-------------|-------------------------------|-----------|---------------|--------------------------------------------------|
| 1    | 1    | D-MD-5012527-0-0 | 5012527-00  | 5412528                       | 1         |               |                                                  |
| 2    | 2    |                  | 1010274-00  | .22 MFD 50V +80-20% Z5U CER   | 8         |               | C1, C2, C3, C4, C9, C10, C13, C16                |
| 3    | 3    |                  | 1000016-00  | 100.0 MMF 100V 5%200PPM MICA  | 1         |               | C14                                              |
| 4    | 4    |                  | 1001610-00  | .01 MFD 50V +80-20% Z5U CER   | 2         |               | C7, C8                                           |
| 5    | 5    |                  | 1010031-03  | .22 MFD 50V 10% M.POLYCARB    | 2         |               | C11, C12                                         |
| 6    | 6    |                  | 1005116-00  | 3300.0 MMF 200V 10% MET. MYLR | 1         |               | C15                                              |
| 7    | 7    |                  | 1100125-00  | 1N 758A VZ= 10.0 5% .40W PPE  | 1         |               | D1                                               |
| 8    | 8    |                  | 1105873-00  | 4M5-1A21 VZ= 5.1 1% .400W     | 1         |               | D2                                               |
| 9    | 9    |                  | 1100114-00  | D 664 QS\75PCB PIV= 25V SP    | 4         |               | D4, D5, D7, D8                                   |
| 10   | 10   |                  | 1301322-00  | 180.0 .25 W 5.0 % CC          | 1         |               | R1                                               |
| 11   | 11   |                  | 1301808-00  | 22.0 K .25 W 5.0 % CC         | 4         |               | R2, R3, R9, R13                                  |
| 12   | 12   |                  | 1300247-00  | 120.0 .25 W 5.0 % CC          | 1         |               | R4                                               |
| 13   | 13   |                  | 1313476-00  | 51.10 K .25 W 1.0 % RN55D-F10 | 1         |               | R5                                               |
| 14   | 14   |                  | 1311320-00  | 90.90 K .25 W 1.0 % RN55D-F10 | 1         |               | R6                                               |
| 15   | 15   |                  | 1309289-00  | 63.40 K .25 W .10% RN55E-B 2  | 1         |               | R7                                               |
| 16   | 16   |                  | 1300479-00  | 10.0 K .25 W 5.0 % CC         | 10        |               | R10, R17, R20, R32, R33, R34, R38, R42, R49, R35 |
| 17   | 17   |                  | 1305421-00  | 35.70 K .25 W 1.0 % RN55D-F10 | 2         | CONT          | R11, R12                                         |
| 18   | 18   |                  | 1300539-00  | 120.0 K .25 W 5.0 % CC        | 1         |               | R14                                              |
| 19   | 19   |                  | 1305130-00  | 133.0 K .25 W 1.0 % RN55D-F10 | 1         |               | R8                                               |
| 20   | 20   |                  | 1309595-00  | 1.0 M .25 W 5.0 % CC          | 6         |               | R15, R18, R30, R37, R36, R44                     |
| 21   | 21   |                  | 1300447-00  | 4.70 K .25 W 5.0 % CC         | 2         |               | R16, R19                                         |
| 22   | 22   |                  | 1301775-00  | 820.0 .25 W 5.0 % CC          | 1         |               | R21                                              |
| 23   | 23   |                  | 1313167-00  | 833.0 K .25 W 1.0 % RN55C-F 5 | 1         |               | R25                                              |
| 24   | 24   |                  | 1302395-00  | 56.0 K .25 W 5.0 % CC         | 6         |               | R26, R27, R28, R29, R40, R41                     |
| 25   | 25   |                  | 1309680-00  | 2.70 M .25 W 5.0 % CC         | 1         |               | R39                                              |
| 26   | 26   |                  | 1302466-00  | 100.0 K .25 W 5.0 % CC        | 3         |               | R31, R46, R47                                    |
| 27   | 27   |                  | 1300398-00  | 1.80 K .25 W 5.0 % CC         | 1         |               | R48                                              |
| 28   | 28   |                  | 1510705-00  | XA 05 NPN 500MW SI 60 50 P    | 1         |               | Q1                                               |
| 29   | 29   |                  | 1511686-00  | DEC5433 FET N 350MW 10 25 1A  | 2         |               | Q2, Q3                                           |

|                  |            |                        |                         |                          |  |                      |  |                      |  |
|------------------|------------|------------------------|-------------------------|--------------------------|--|----------------------|--|----------------------|--|
| REVISION HISTORY |            | BASIC PART NO: 5412528 |                         | DRN: R.KOPPENALL         |  | DATE: 07-MAR-79      |  | D I G I T A L        |  |
| ENG              | ECO NUMBER | REV                    | SECTION A OF A          | CHK'D: K.GLEEZEN         |  | DATE: 07-MAR-79      |  | TITLE PARTS LIST     |  |
| 5412528-ML002    |            | C                      | SECTION VARIATION INDEX | DES.ENG: JIM GREGORICH   |  | DATE: 07-MAR-79      |  | POWER MONITOR BOARD  |  |
|                  |            |                        | [A] 00                  | RESP.ENG.: JIM GREGORICH |  | DATE: 07-MAR-79      |  | DOCUMENT NUMBER      |  |
|                  |            |                        | [B]                     | MFG.ENG.: R.HAMILTON     |  | DATE: 07-MAR-79      |  | SIZE CODE NUMBER REV |  |
|                  |            |                        | [C]                     | ASSEMBLY NUMBER:         |  | TOP DOCUMENT NUMBER: |  | FILE NAME: EDIT #    |  |
|                  |            |                        | [D]                     | D-UA-5412528-0-0         |  |                      |  | 20411C.PLS 3         |  |
|                  |            |                        | [E]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [F]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [G]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [H]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [I]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [J]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [K]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [L]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [M]                     |                          |  |                      |  |                      |  |
|                  |            |                        | [N]                     |                          |  |                      |  |                      |  |

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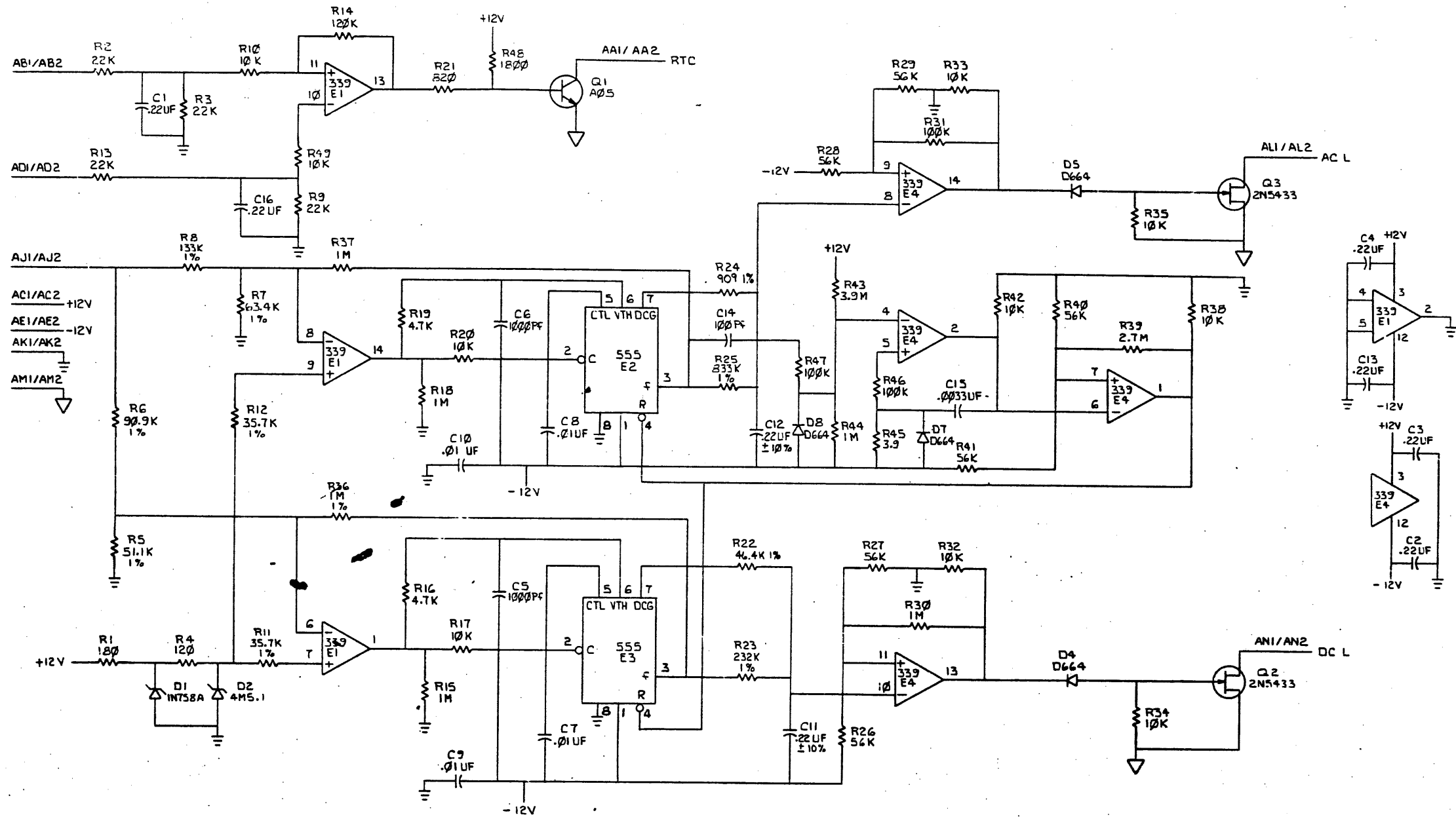
PARTS LIST

SHEET A2 OF A2

| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION                   | QTY PER VARIATION<br>00 | REFERENCE DESIGNATOR |
|------|------|-----------------|-------------|-------------------------------|-------------------------|----------------------|
| 30   | 30   |                 | 1912108-00  | 339 VOLT CMPRTR, QUAD         | 2                       | E1, E4               |
| 31   | 31   |                 | 1911944-00  | 555CN TIMER, FUNCT. BLOCK     | 2                       | E2, E3               |
| 32   | 32   |                 | 1305424-00  | 232.0 K .25 W 1.0 % RN55D-F10 | 1                       | R23                  |
| 33   | 33   |                 | 1314387-00  | 3.90 M .25 W 5.0 % CC         | 2                       | R43, R45             |
| 34   | 34   |                 | 1000042-00  | 1000.0 MMF 100V 5%200PPM MICA | 2                       | C5, C6               |
| 35   | 35   |                 | 7418695-00  | *** THIS ITEM IS NOT USED *** | -                       |                      |
| 36   | 36   |                 | 9009000-00  | *** THIS ITEM IS NOT USED *** | -                       |                      |
| 37   | 37   |                 | 9105740-55  | *** THIS ITEM IS NOT USED *** | -                       |                      |
| 38   | 38   |                 | 1303311-00  | 46.40 K .25 W 1.0 % RN55D-F10 | 1                       | R22                  |
| 39   | 39   |                 | 1302685-00  | 909.0 .25 W 1.0 % RN55D-F10   | 1                       | R24                  |
| 40   | 40   |                 | 1215993-00  | RETAINER, CARD                | 1                       |                      |

|   |   |   |   |   |   |   |       |                     |                |      |      |                 |     |
|---|---|---|---|---|---|---|-------|---------------------|----------------|------|------|-----------------|-----|
| D | I | G | I | T | A | L | TITLE | POWER MONITOR BOARD | SECTION A OF A | SIZE | CODE | DOCUMENT NUMBER | REV |
|   |   |   |   |   |   |   |       |                     |                | K    | PL   | 5412528-0-D8P   | C   |

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| REV. | CHG.         | DATE | BY | CHK. |
|------|--------------|------|----|------|
| 1    | 5412528-0001 | B    |    |      |
| 2    | 5412528-0002 | B    |    |      |
| 3    | 5412528-0003 | B    |    |      |
| 4    | 5412528-0004 | B    |    |      |
| 5    | 5412528-0005 | B    |    |      |
| 6    | 5412528-0006 | B    |    |      |
| 7    | 5412528-0007 | B    |    |      |
| 8    | 5412528-0008 | B    |    |      |

|                   |              |               |                     |
|-------------------|--------------|---------------|---------------------|
| DATE              | 8-6-77       | FIRST USED ON | H786                |
| CHG.              | 5412528-0001 | TITLE         | POWER MONITOR BOARD |
| ENGR.             | 5412528-0001 | SCALE         | 1                   |
| PROD. ENGR.       | 5412528-0001 | NUMBER        | 5412528-0-1         |
| PROD. ENGR.       | 5412528-0001 | REV.          | C                   |
| NEXT HIGHER ASSY. |              |               |                     |
| D-1A-5412528-0-0  |              |               |                     |
| SHEET             | 1            | OF            | 1                   |

# FIELD MAINTENANCE PRINT SET

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| D-CS-M8Ø44-Ø-1 | CIRCUIT SCHEMATIC (M8Ø44)                |
| MP ØØ566       | MSV11-D FIELD MAINTENANCE PRINT SET      |

[illegible]

MSV11-D

# Field Maintenance Print Set

MP00566

# Digital Equipment Corporation

EN101241515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151515151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NOTE: FOR FIELD MAINTENANCE PRINT SET  
SEE B-TC-MSV11-D-1

## UNIT VARIATIONS

[illegible]

|            |      |           |  |                      |            |          |                                                              |      |         |  |  |  |     |  |  |  |
|------------|------|-----------|--|----------------------|------------|----------|--------------------------------------------------------------|------|---------|--|--|--|-----|--|--|--|
| REVISIONS  |      |           |  | USED ON OPTION/MODEL | DRN.       | DATE     | TITLE                                                        |      |         |  |  |  |     |  |  |  |
| CHANGE NO. | REV. | A         |  | LSI-11               | DEVRIES    | 15-12-77 | DRAWING DIRECTORY<br>MSV11-D (32K X 16)<br>MOS MEMORY SYSTEM |      |         |  |  |  |     |  |  |  |
| CHK        | JA   | MSV11-D-I |  |                      | CHK'D.     | DATE     |                                                              |      |         |  |  |  |     |  |  |  |
|            |      |           |  |                      | R. Simon   | 2-21-78  |                                                              |      |         |  |  |  |     |  |  |  |
|            |      |           |  |                      | PROJ. ENG. | DATE     | SIZE                                                         | CODE | NUMBER  |  |  |  | REV |  |  |  |
|            |      |           |  |                      | R. Simon   | 2-21-78  | B                                                            | DD   | MSV11-D |  |  |  | A   |  |  |  |
|            |      |           |  |                      | PROD.      | DATE     | DIST.                                                        |      |         |  |  |  |     |  |  |  |
|            |      |           |  | SHEET 1 OF 3         | R. Mantel  | 2-21-78  |                                                              |      |         |  |  |  |     |  |  |  |

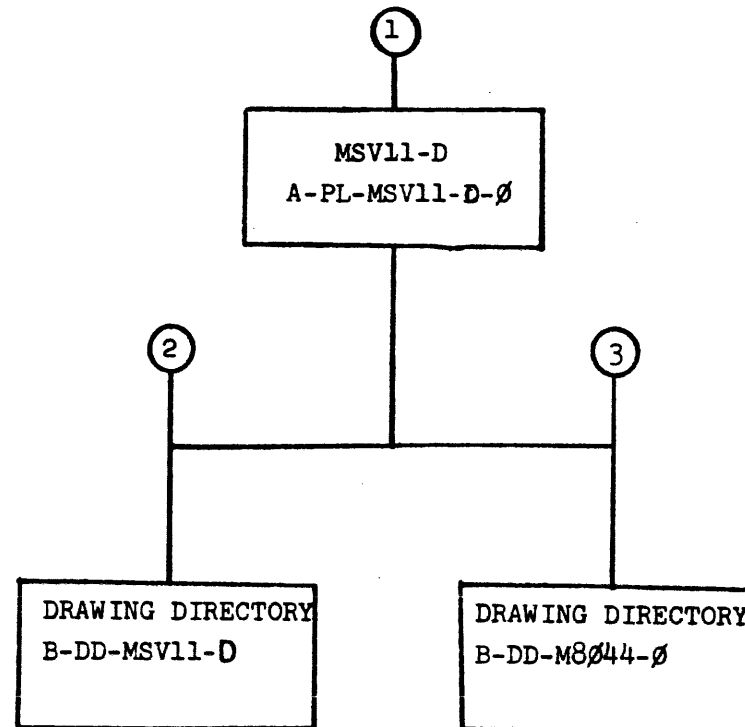
**DRB 106A**

ML



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REV. A  
NUMBER MSVII-D  
SIZE B  
CODE DD



TITLE DRAWING DIRECTORY  
MSVII-D (32K X 16)  
MOS MEMORY SYSTEM

SHEET 2 OF 3

SIZE CODE  
B DD

NUMBER  
MSVII-D

REV  
A

# DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST

|         |           |
|---------|-----------|
| MADE BY | E.DEVRIES |
| DATE    | 14-12-77  |
| ENG     | R. Groen  |
| DATE    | 2-21-78   |

|         |           |
|---------|-----------|
| CHECKED | R. GIVEN  |
| DATE    | 2-21-78   |
| PROD    | R. Martin |
| DATE    | 2-21-78   |

ISSUED SECT.

### QUANTITY VARIATION

[illegible]



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D

C

B

A

LSI-II "Q" BUS

-5V CHARGE PUMP AND REF CLOCK  
REF CLK H  
-5V

REFRESH COUNTER

REFRESH ADDRESS LATCH

MUX < A1 : A7 > H

PARITY ERROR DETECTOR  
(MSVII-E ONLY)  
PAR ERR IND H

BDAL < 0 : 15 > L

BAD 16 L

BAD 17 L

BUS XCURS

DAL < 0 : 15 > H

WN PA 16 H

ADDRESS LATCHES

PARITY GENERATOR  
(MSVII-E ONLY)  
PDI < 16, 17 > H

ROW/COL ADD CONTROL

SYNC H/L

DIN H/L

DOUT H

WBTBTL/H

DC OK L

TIMING AND CONTROL LOGIC

RAS L

CAS L

WTBT L

MEMORY ARRAY

DO < 0 : 15 > H

DATA LATCHES

DATA LAT L

BDAL12 L

MEMORY EXTENSION FROM 28 K TO 30 K

DAL 13 H

A17 H

EXT REF H

BANK SEL 7 H

ADDRESSING LOGIC

STARTING ADDRESS SWITCHES

MEM SEL

BRPLY L

BUS DRVR

RPLY H

REF CLK H

REF KILL

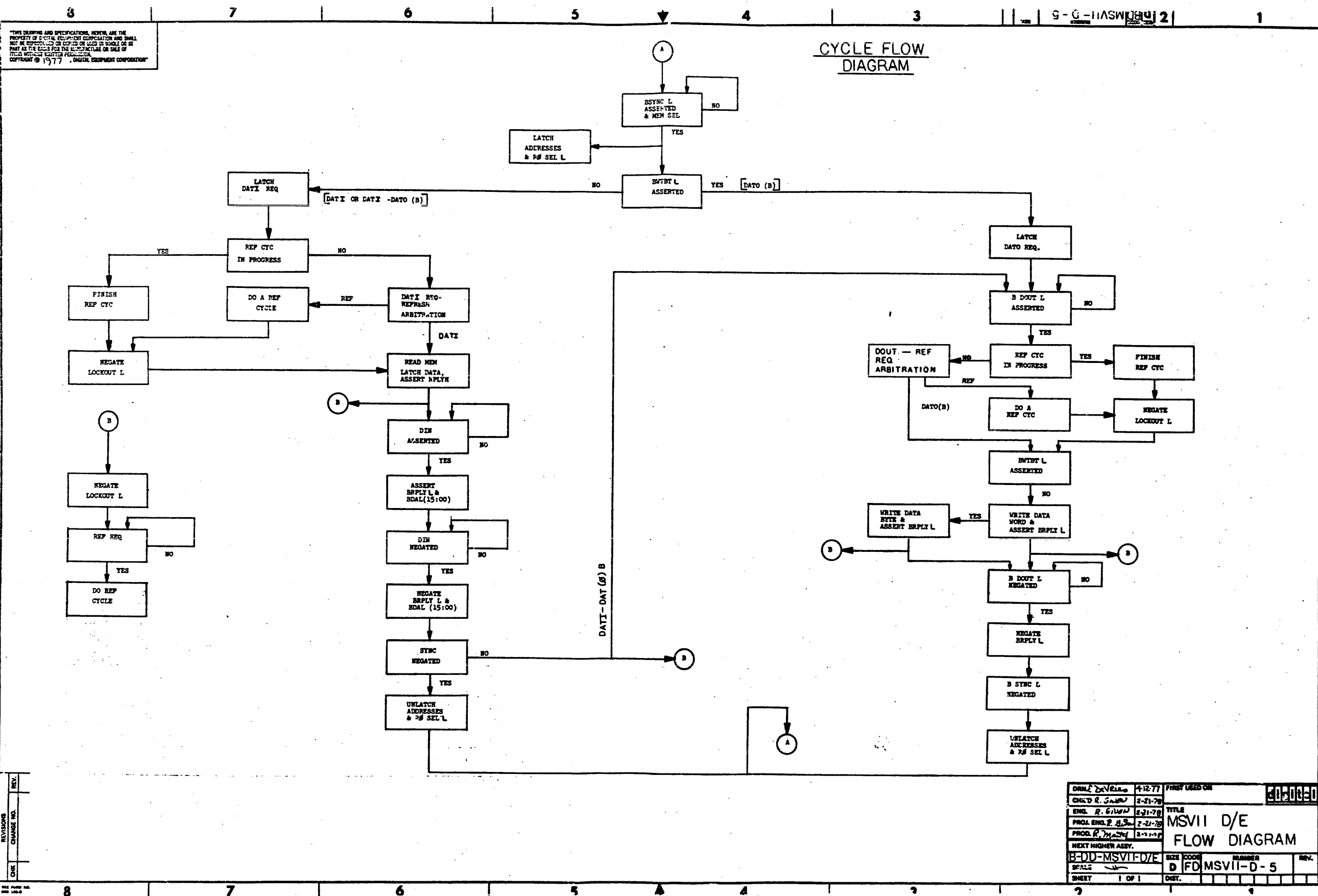
REFRESH CONTROL LOGIC

-5V

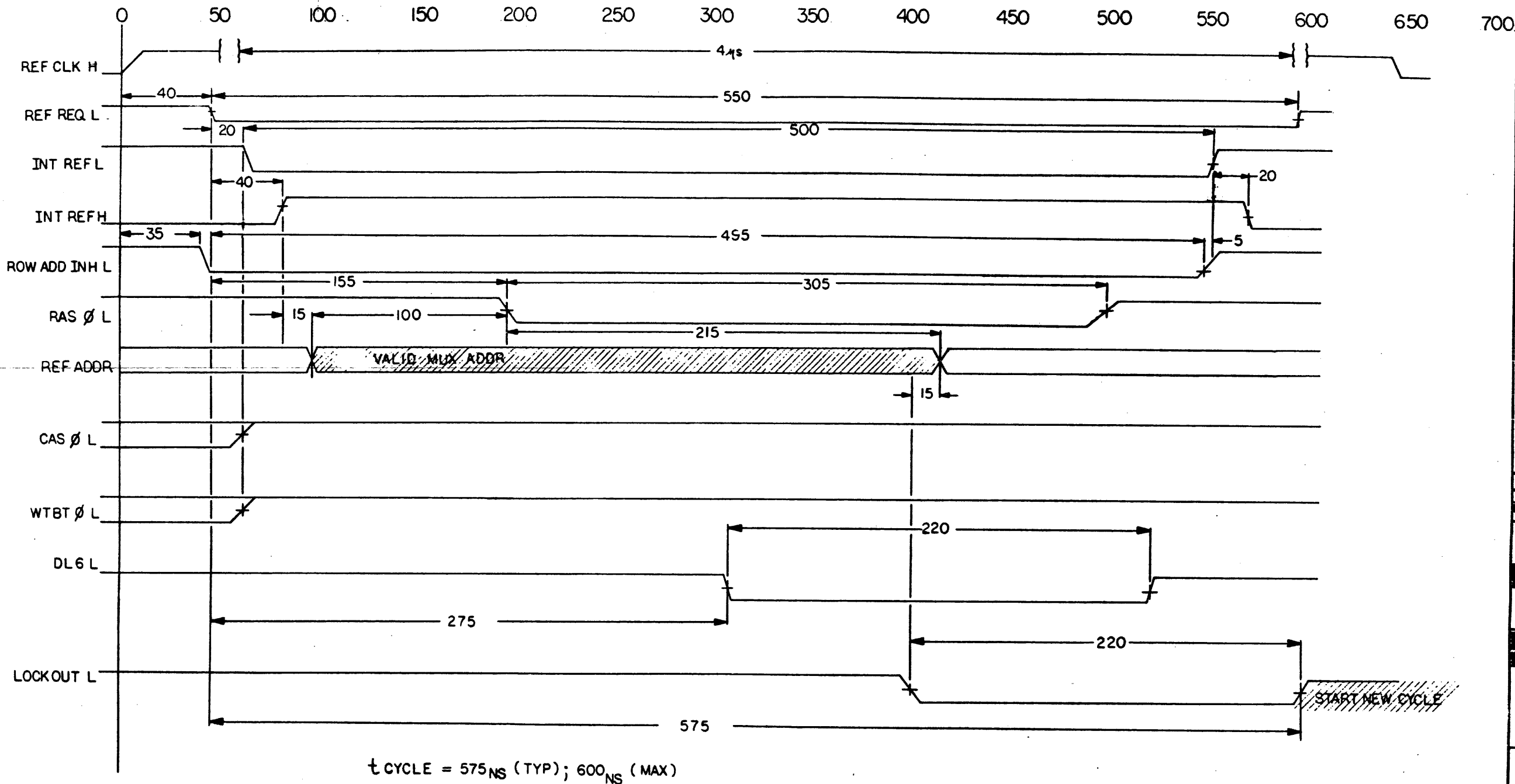
|                     |               |           |
|---------------------|---------------|-----------|
| DRN. E. DeVellis    | FIRST USED ON | 2-21-78   |
| CHK'D R. Given      | TITLE         | MSVII D/E |
| ENG. R. Given       | SCALE         | 1 OF 1    |
| PROJ. ENG. R. Given | SIZE          | D BD      |
| PROD. R. Given      | NUMBER        | MSVII-D-4 |
| NEXT HIGHER ASSY.   | DIST.         |           |
| B-DD-MSVII-D/E      |               |           |

A

DIG MSVII-D-4



# REFRESH CYCLE

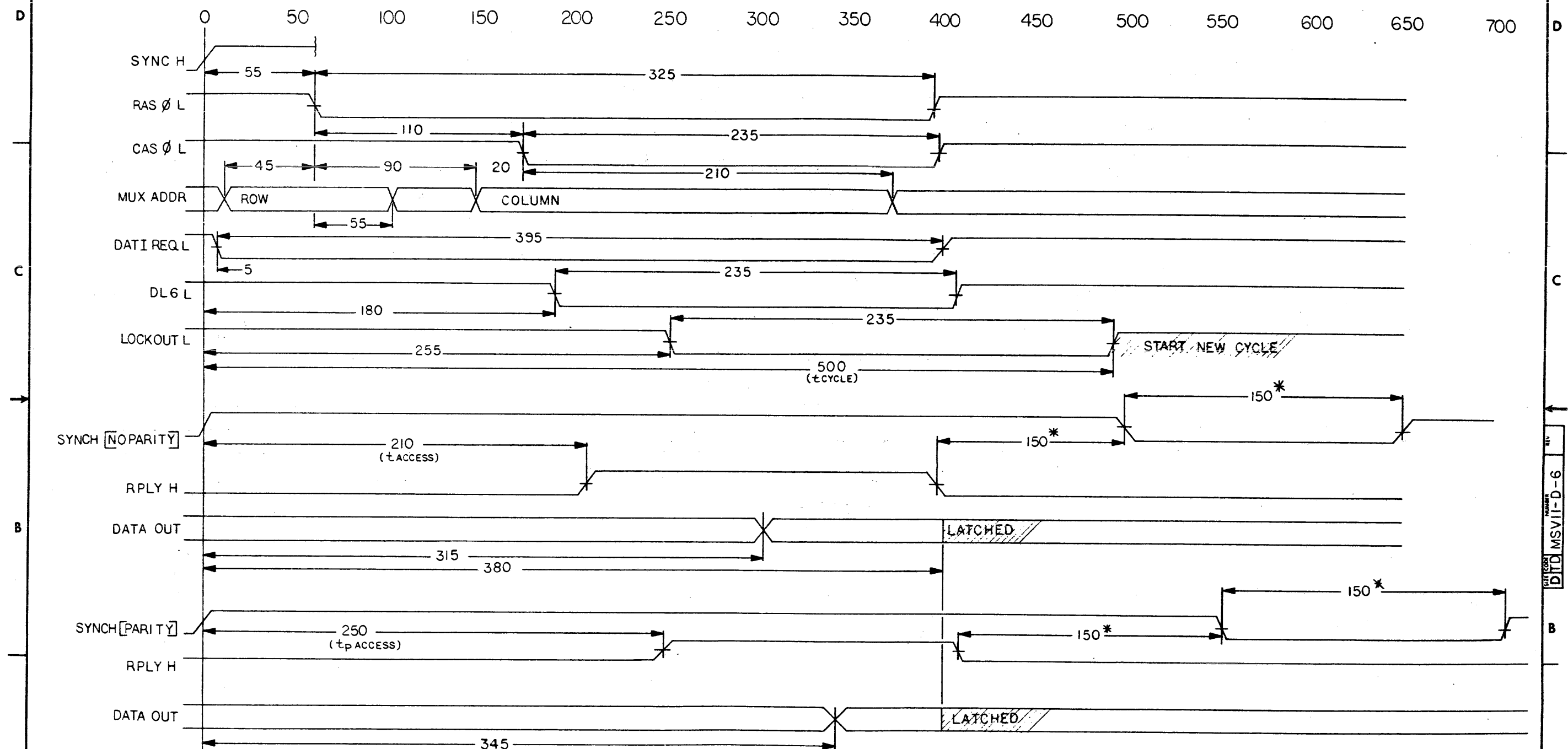


$t_{\text{CYCLE}} = 575 \text{ ns (TYP)}; 600 \text{ ns (MAX)}$

|                     |         |               |                  |
|---------------------|---------|---------------|------------------|
| DRN. E. DeVito      | ITANVT  | FIRST USED ON | digital          |
| CHK'D R. GIVEN      | 2-21-78 | TITLE         | MSVII D/E TIMING |
| ENG. R. GIVEN       | 2-21-78 | DIAGRAM       |                  |
| PROJ. ENG. R. GIVEN | 2-21-78 | SIZE          | D                |
| PROD. R. GIVEN      | 2-21-78 | CODE          | TD               |
| NEXT HIGHER ASSY.   |         | NUMBER        | MSVII-D-6        |
| B-DD-MSVII-D/E      |         | REV.          |                  |
| SCALE               |         | DIST.         |                  |
| SHEET 1 OF 4        |         |               |                  |

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DATA CYCLE



\* SPECIFIED BUS MINIMUMS :

‡ ACCESS = 210 NS (TYP) ; 225 NS (MAX)

$t_{\text{PACCESS}} = 250 \text{ NS (TYP)}; 265 \text{ NS (MAX)}$

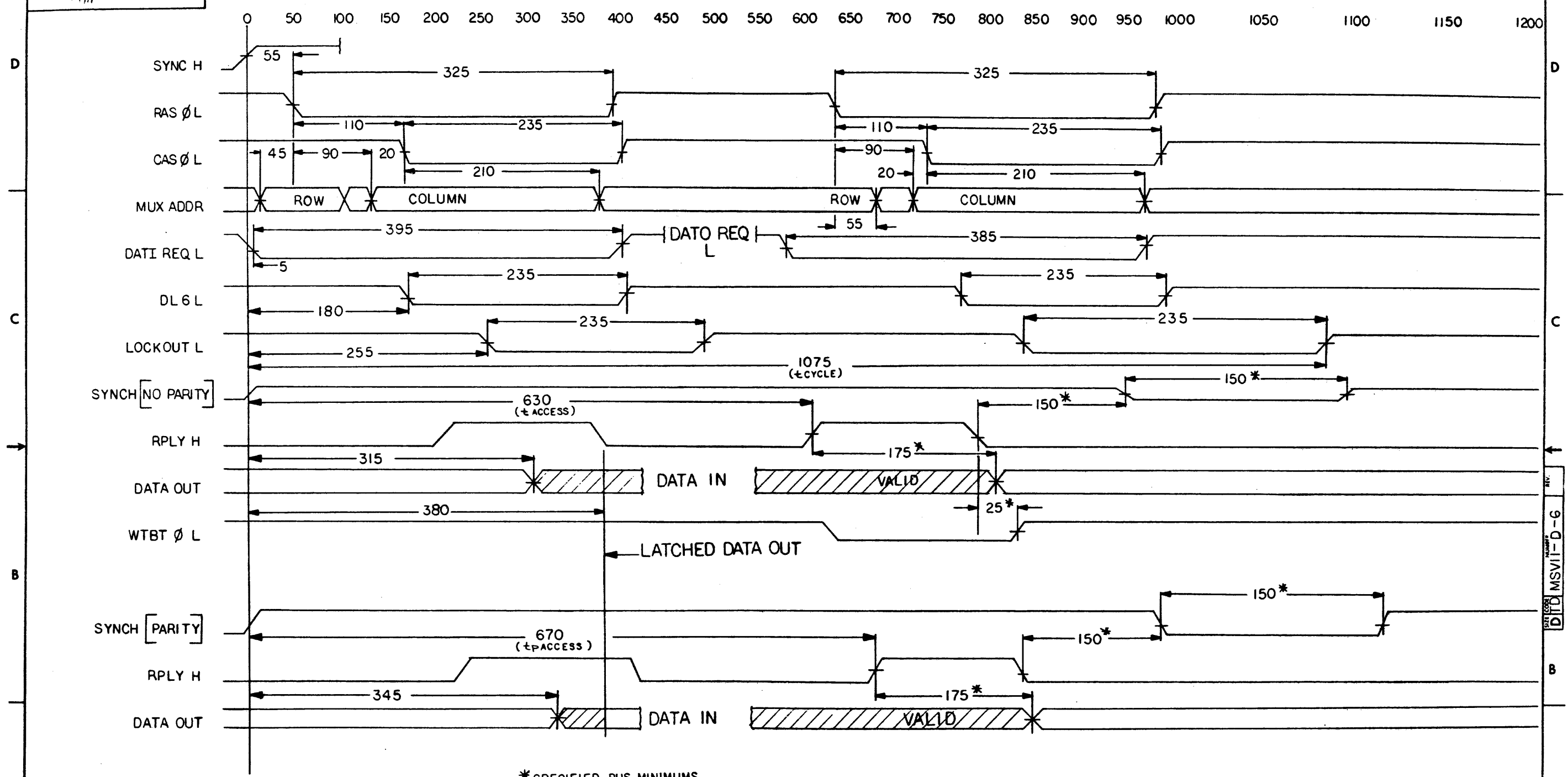
‡ CYCLE = 500 NS (TYP); 520 NS (MAX)

| REVISIONS |            |     |
|-----------|------------|-----|
| CHK       | CHANGE NO. | REV |
|           |            |     |

|                                                                                       |  |                             |  |  |       |      |           |  |  |      |
|---------------------------------------------------------------------------------------|--|-----------------------------|--|--|-------|------|-----------|--|--|------|
| TITLE                                                                                 |  | MSVII D/E TIMING<br>DIAGRAM |  |  | SIZE  | CODE | NUMBER    |  |  | REV. |
| SCALE                                                                                 |  | SHEET 2 OF 4                |  |  | D     | TD   | MSVII-D-6 |  |  |      |
|  |  |                             |  |  | DIST. |      |           |  |  |      |

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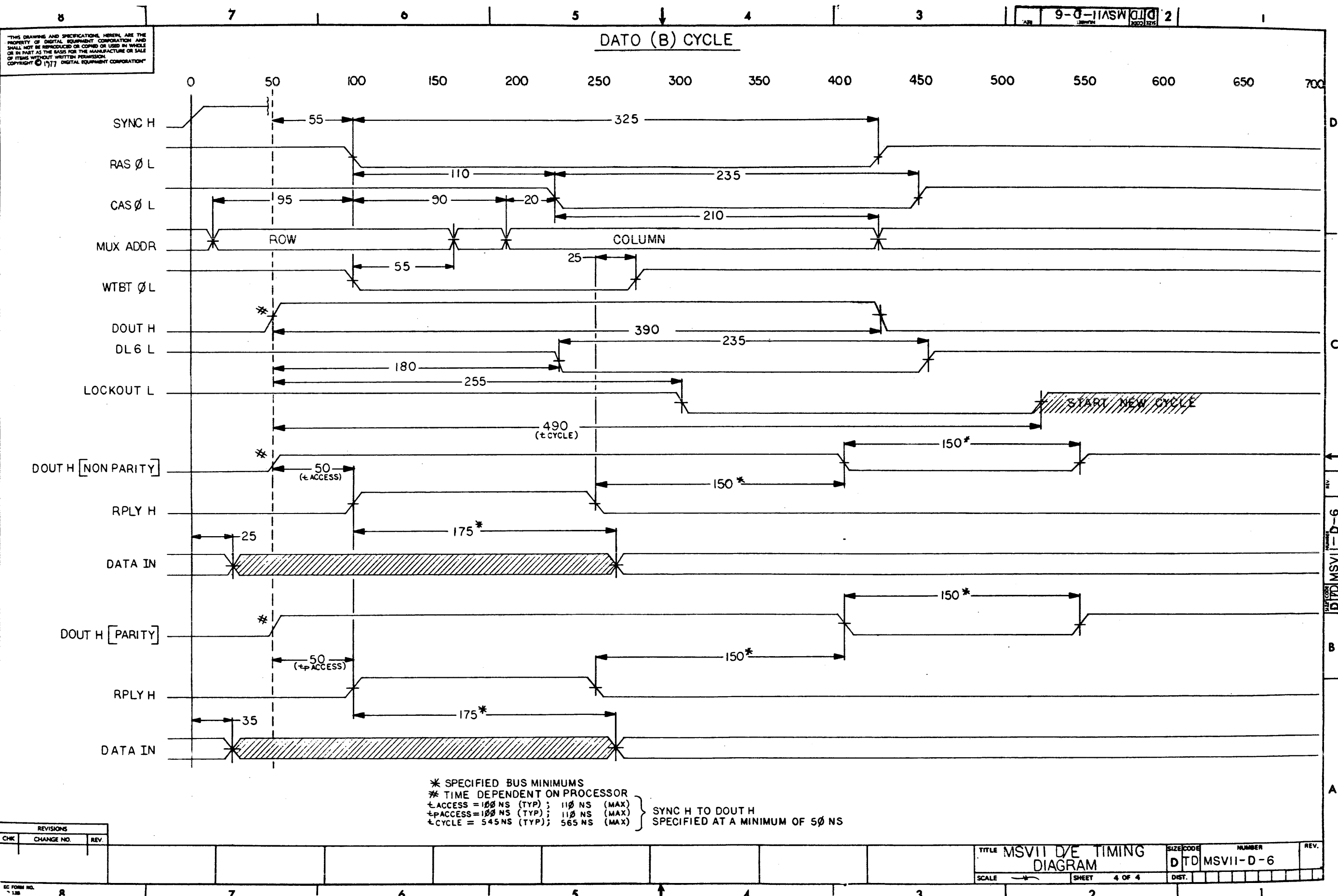
DATIO (B) CYCLE



\* SPECIFIED BUS MINIMUMS

|                                      |               |
|--------------------------------------|---------------|
| t <sub>ACCESS</sub> = 630 ns (TYP);  | 650 ns (MAX)  |
| t <sub>PACCESS</sub> = 670 ns (TYP); | 690 ns (MAX)  |
| t <sub>CYCLE</sub> = 1075 ns (TYP);  | 1100 ns (MAX) |
| t <sub>PCYCLE</sub> = 1115 ns (TYP); | 1140 ns (MAX) |

| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

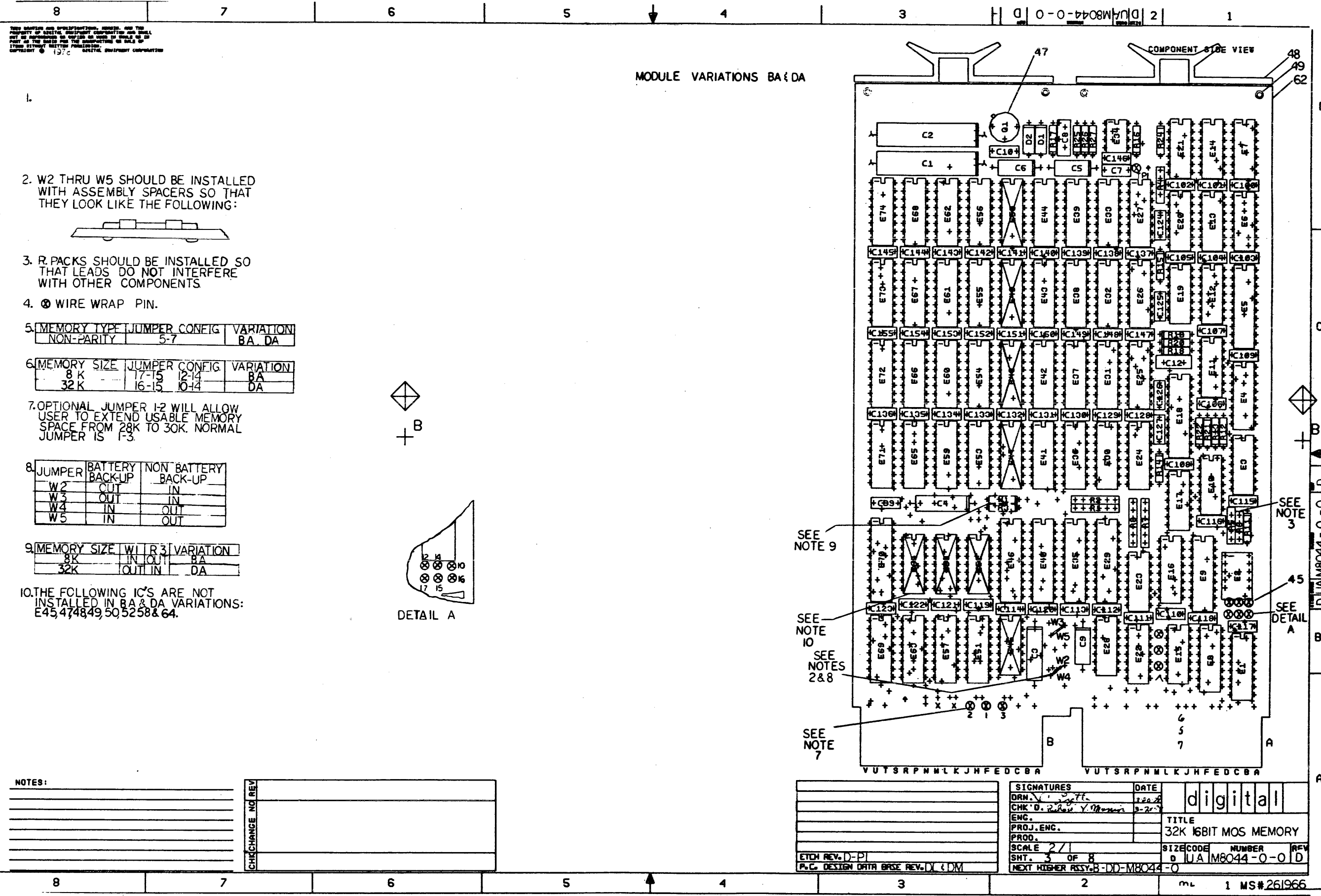












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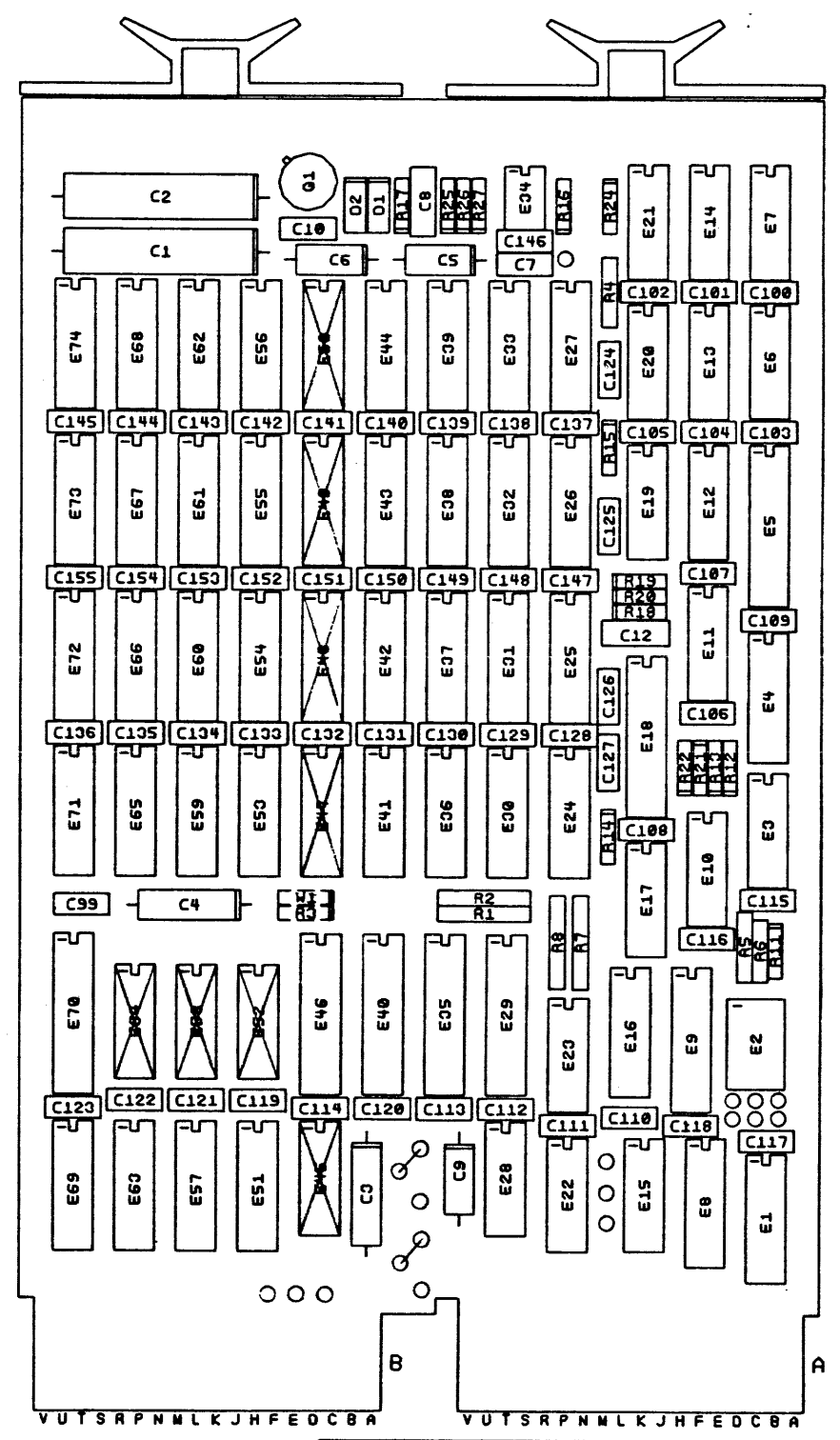
MODULE VARIATIONS BA' DA



NOTES:

CHANCE NO

REV



|                                  |  |        |                       |
|----------------------------------|--|--------|-----------------------|
| SIGNATURES                       |  | DATE   | digital               |
| DRN.                             |  | 3-1-74 |                       |
| CHK'D. (initials)                |  | 3-1-74 |                       |
| ENC.                             |  |        |                       |
| PROJ. ENC.                       |  |        | TITLE                 |
| PROD.                            |  |        | 32K 16 BIT MOS MEMORY |
| SCALE 2/1                        |  |        | SIZE CODE NUMBER REV  |
| SHT. 4 OF 8                      |  |        | 0 UAM8044-0-0 D       |
| NEXT HIGHER ASSY. B-DD-M8044-0-0 |  |        |                       |

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NOTES:

1. ● = WIRE WRAP PIN

| TYPE MEMORY | JUMPER CONFIGURATION |
|-------------|----------------------|
| NON PARITY  | 5 TO 7               |
| PARITY      | 5 TO 6               |

| TYPE | JUMPER CONFIGURATION |
|------|----------------------|
| 4K   | 17 TO 15 & 17 TO 14  |
| 8K   | 17 TO 15 & 12 TO 14  |
| 16K  | 16 TO 15 & 16 TO 14  |
| 32K  | 16 TO 15 & 16 TO 14  |

| STARTING ADDRESS |        | SWITCH SETTING (X = OFF) |      |      |      |      |
|------------------|--------|--------------------------|------|------|------|------|
| DEC (K)          | OCTAL  | SI-1                     | SI-2 | SI-3 | SI-4 | SI-5 |
| 0                | 000000 |                          |      |      |      |      |
| 4                | 020000 |                          |      |      |      | X    |
| 8                | 040000 |                          |      |      | X    |      |
| 12               | 060000 |                          |      |      | X    | X    |
| 16               | 100000 |                          |      | X    |      |      |
| 20               | 120000 |                          |      | X    |      | X    |
| 24               | 140000 |                          |      | X    | X    |      |
| 28               | 160000 |                          |      | X    | X    | X    |
| 32               | 200000 | X                        |      |      |      |      |
| 36               | 220000 | X                        |      |      |      | X    |
| 40               | 240000 | X                        |      |      | X    |      |
| 44               | 260000 | X                        |      |      | X    | X    |
| 48               | 300000 | X                        | X    |      |      |      |
| 52               | 320000 | X                        | X    |      |      | X    |
| 56               | 340000 | X                        | X    | X    |      |      |
| 60               | 360000 | X                        | X    | X    | X    |      |
| 64               | 400000 | X                        |      |      |      |      |
| 68               | 420000 | X                        |      |      |      | X    |
| 72               | 440000 | X                        |      |      | X    |      |
| 76               | 460000 | X                        |      |      | X    | X    |
| 80               | 500000 | X                        |      | X    |      |      |
| 84               | 520000 | X                        |      | X    |      | X    |
| 88               | 540000 | X                        |      | X    | X    |      |
| 92               | 560000 | X                        |      | X    | X    | X    |
| 96               | 600000 | X                        | X    |      |      |      |
| 100              | 620000 | X                        | X    |      |      | X    |
| 104              | 640000 | X                        | X    |      | X    |      |
| 108              | 660000 | X                        | X    |      | X    | X    |
| 112              | 700000 | X                        | X    | X    |      |      |
| 116              | 720000 | X                        | X    | X    |      | X    |
| 120              | 740000 | X                        | X    | X    | X    |      |
| 124              | 760000 | X                        | X    | X    | X    | X    |

5. NORMAL JUMPER 1 TO 3.  
OPTIONAL JUMPER 1 TO 2  
WILL ALLOW USER TO EXTEND USABLE  
MEMORY SPACE FROM 28K TO 34K.

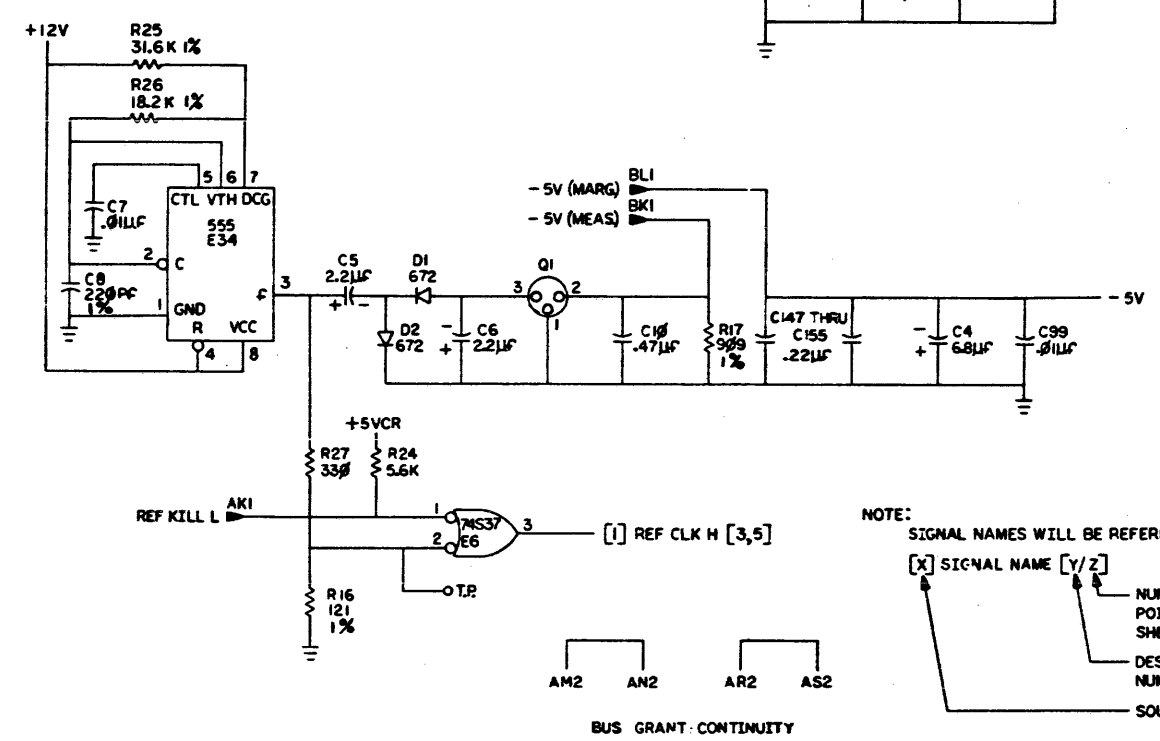
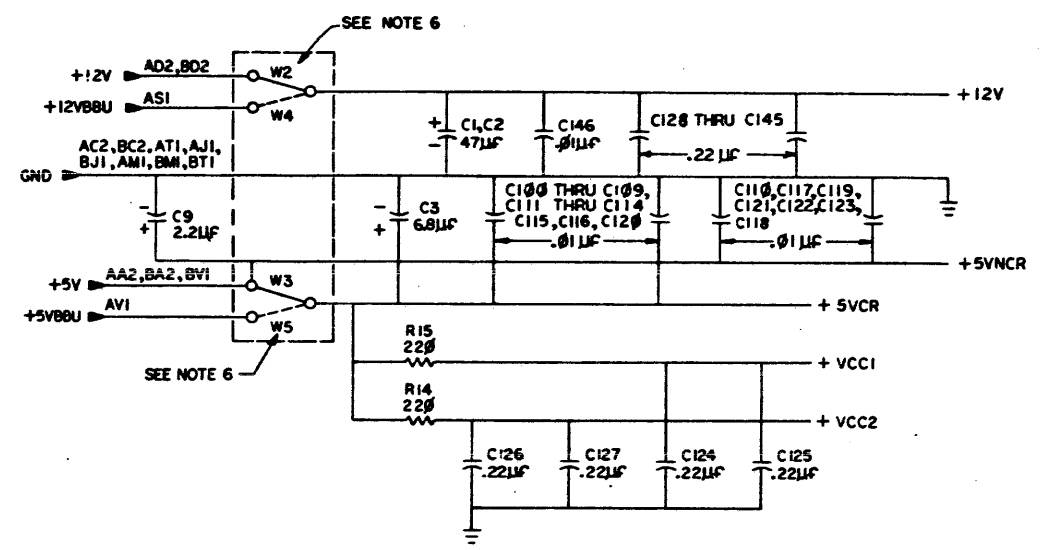
| JUMPER | BATTERY BACK-UP | NON BATTERY BACK-UP |
|--------|-----------------|---------------------|
| W2     | OUT             | IN                  |
| W3     | OUT             | IN                  |
| W4     | IN              | OUT                 |
| W5     | IN              | OUT                 |

| MEMORY SIZE | W1  | R3  |
|-------------|-----|-----|
| 4K          | IN  | OUT |
| 8K          | IN  | OUT |
| 16K         | OUT | IN  |
| 32K         | OUT | IN  |

| OPTION DESIGNATION | PRIMARY VARIATION | SYSTEM DESCRIPTION |
|--------------------|-------------------|--------------------|
| MSVII-DA           | M8044-AA          | 4K X 16 BITS       |
| MSVII-DB           | M8044-BA          | 8K X 16 BITS       |
| MSVII-DC           | M8044-CA          | 16K X 16 BITS      |
| MSVII-DD           | M8044-DA          | 32K X 16 BITS      |

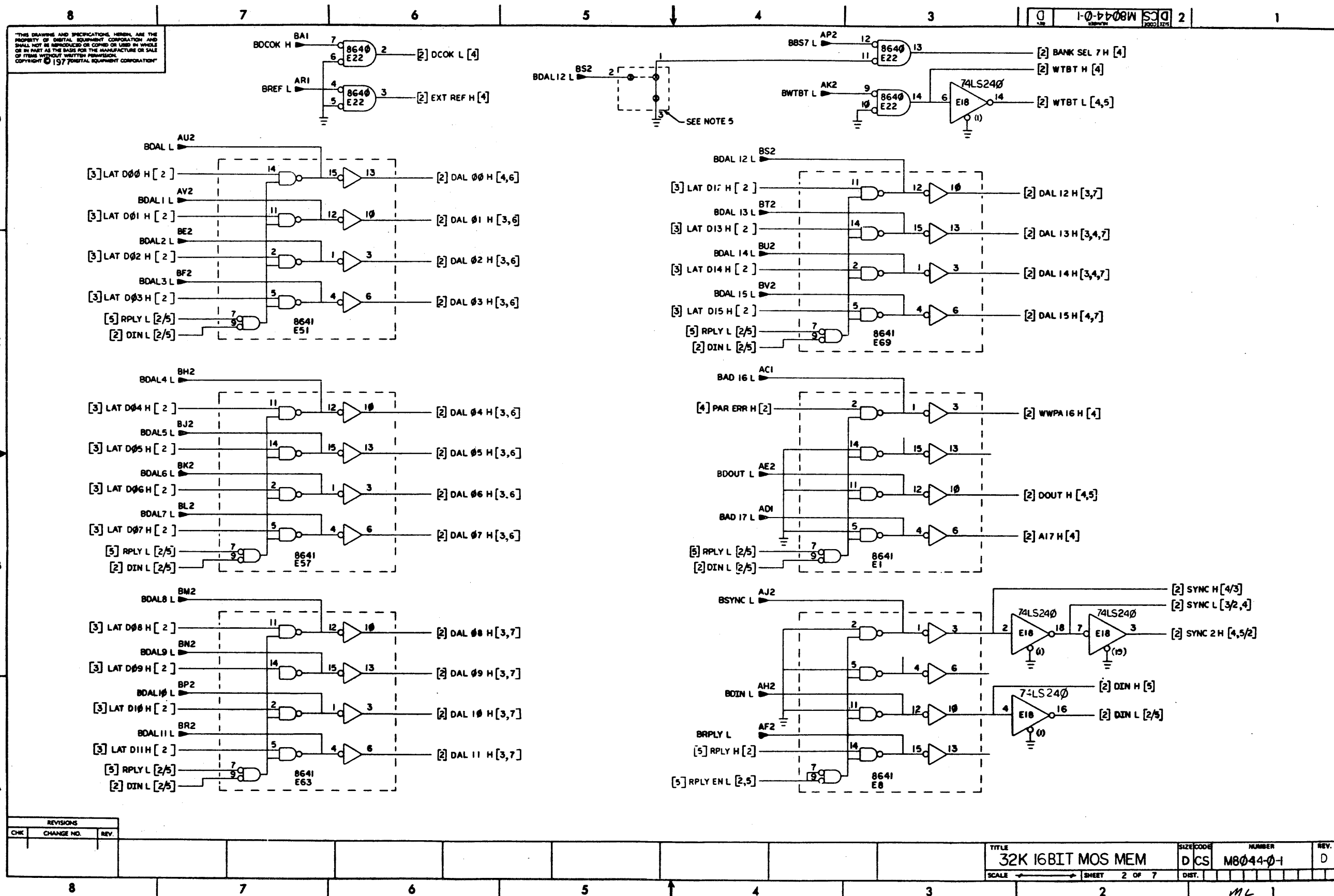
| IC TYPE   | +5V | GND | +12V | -5V |
|-----------|-----|-----|------|-----|
| 555       |     | 1   | 8    |     |
| MOS       | 9   | 16  | 8    | 1   |
| 74S373    | 20  | 10  |      |     |
| 74LS393   | 14  | 7   |      |     |
| 74S280    | 14  | 7   |      |     |
| 74S74     | 14  | 7   |      |     |
| 74S10     | 14  | 7   |      |     |
| 74S11     | 14  | 7   |      |     |
| 8641      | 16  | 8   |      |     |
| 8640      | 8   | 1   |      |     |
| 74S240    | 20  | 10  |      |     |
| 74S37     | 14  | 7   |      |     |
| 74S22     | 14  | 7   |      |     |
| 1KX4 PROM | 18  | 9   |      |     |
| 74S02     | 14  | 7   |      |     |
| 74LS75    | 5   | 12  |      |     |
| 74S32     | 14  | 7   |      |     |
| 74LS00    | 14  | 7   |      |     |
| 74LS240   | 20  | 10  |      |     |

THESE I.C.'S USED ONLY IN 8K & 32K CONFIG'S.

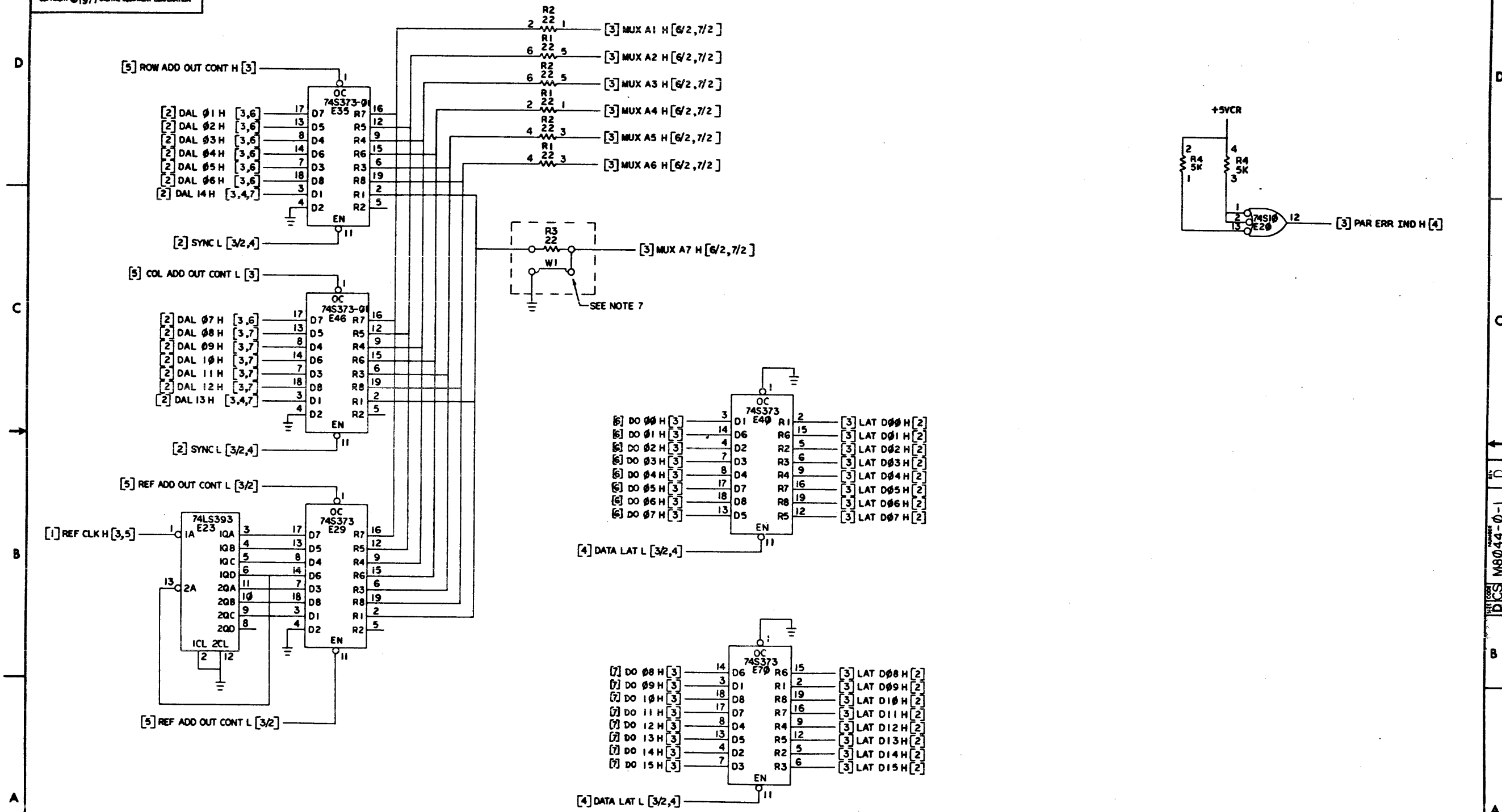


NOTE:  
SIGNAL NAMES WILL BE REFERENCED AS FOLLOWS:  
[X] SIGNAL NAME [Y/Z]  
NUMBER OF CONNECTION POINTS ON DESTINATION SHEET.  
DESTINATION SHEET NUMBER.  
SOURCE SHEET NUMBER.

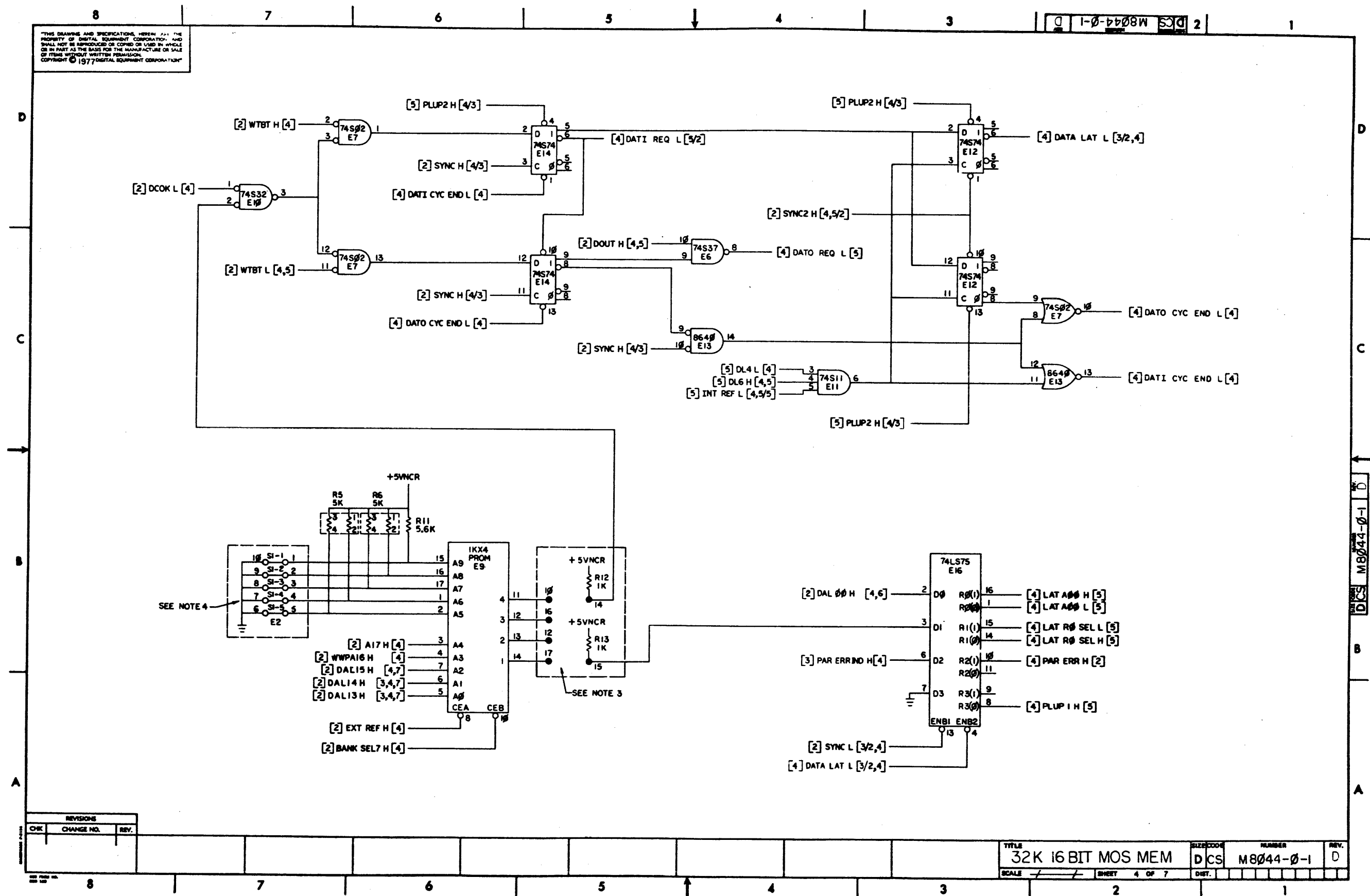
| REVIEWS                |             |      |  |
|------------------------|-------------|------|--|
| CHK                    | CHANGE NO.  | REV. |  |
| 111                    | MB044-00001 | B    |  |
| STEELE WILKIE 10/29/78 |             |      |  |
| R. GIVEN               |             |      |  |
| A. Given 10-29-78      |             |      |  |
| B.B. MB044 ML002 C     |             |      |  |
| C. STEELE 10/31/78     |             |      |  |
| R. GIVEN               |             |      |  |
| G. Given 11-27-Dec-78  |             |      |  |

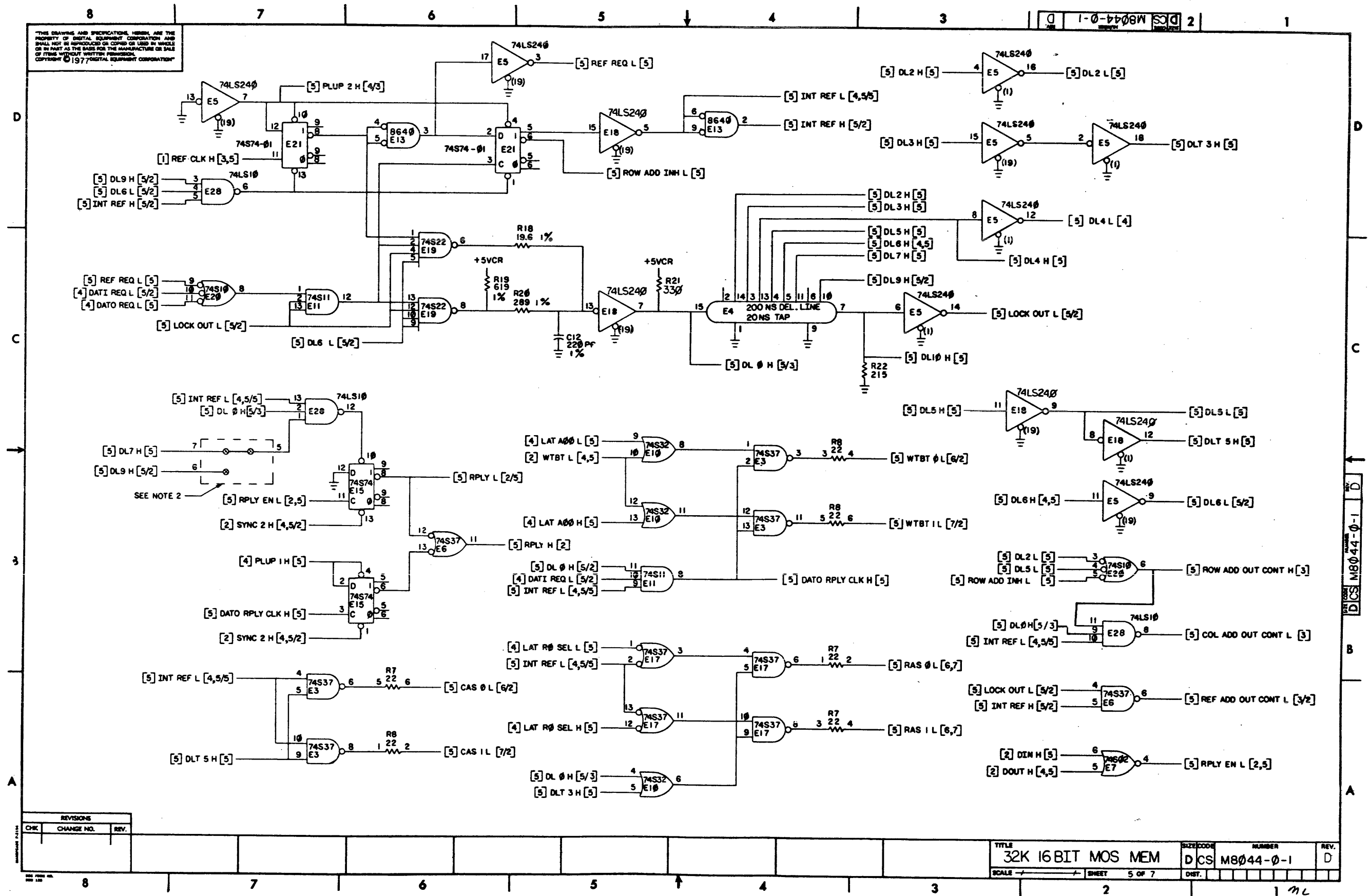


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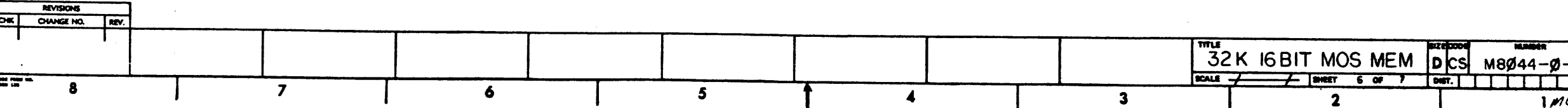


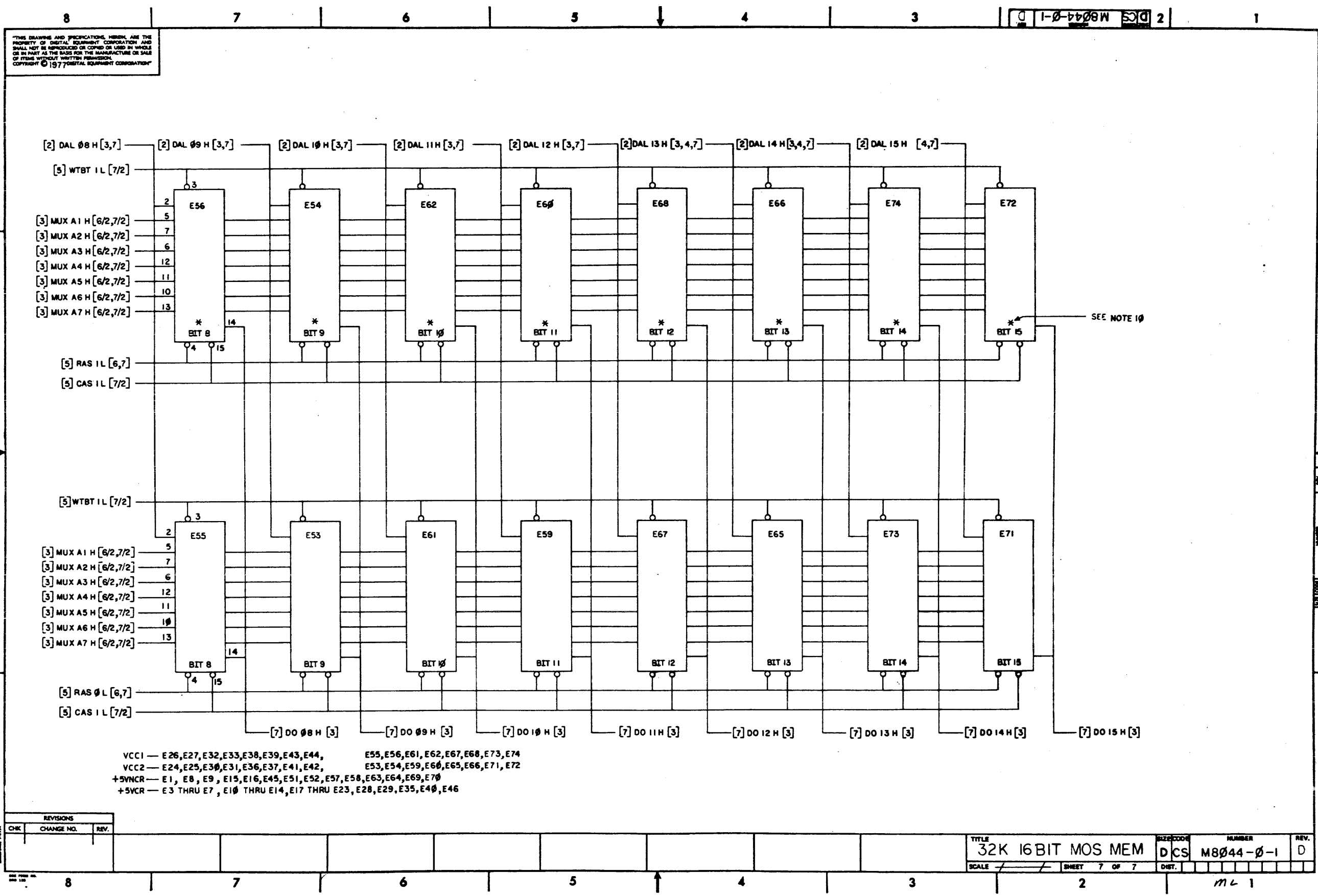
| REVISIONS |            |      | TITLE             |  | SIZE CODE |  | NUMBER    |  | REV. |  |
|-----------|------------|------|-------------------|--|-----------|--|-----------|--|------|--|
| CHK       | CHANGE NO. | REV. | 32K 16BIT MOS MEM |  | D CS      |  | M8044-0-1 |  | D    |  |
| SCALE     |            |      | SHEET             |  | 3 OF 7    |  | DIST.     |  | ML 1 |  |











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VCC1 — E26, E27, E32, E33, E38, E39, E43, E44, E55, E56, E61, E62, E67, E68, E73, E74  
VCC2 — E24, E25, E30, E31, E36, E37, E41, E42, E53, E54, E59, E60, E65, E66, E71, E72  
+5VNCR — E1, E8, E9, E15, E16, E45, E51, E52, E57, E58, E63, E64, E69, E70  
+5VCR — E3 THRU E7, E10 THRU E14, E17 THRU E23, E28, E29, E35, E40, E46

| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

|                   |       |          |           |      |
|-------------------|-------|----------|-----------|------|
| TITLE             |       | DIG CODE | NUMBER    | REV. |
| 32K 16BIT MOS MEM |       | DCS      | M8044-0-1 | D    |
| SCALE             | SHEET | 7 OF 7   |           |      |

ML 1

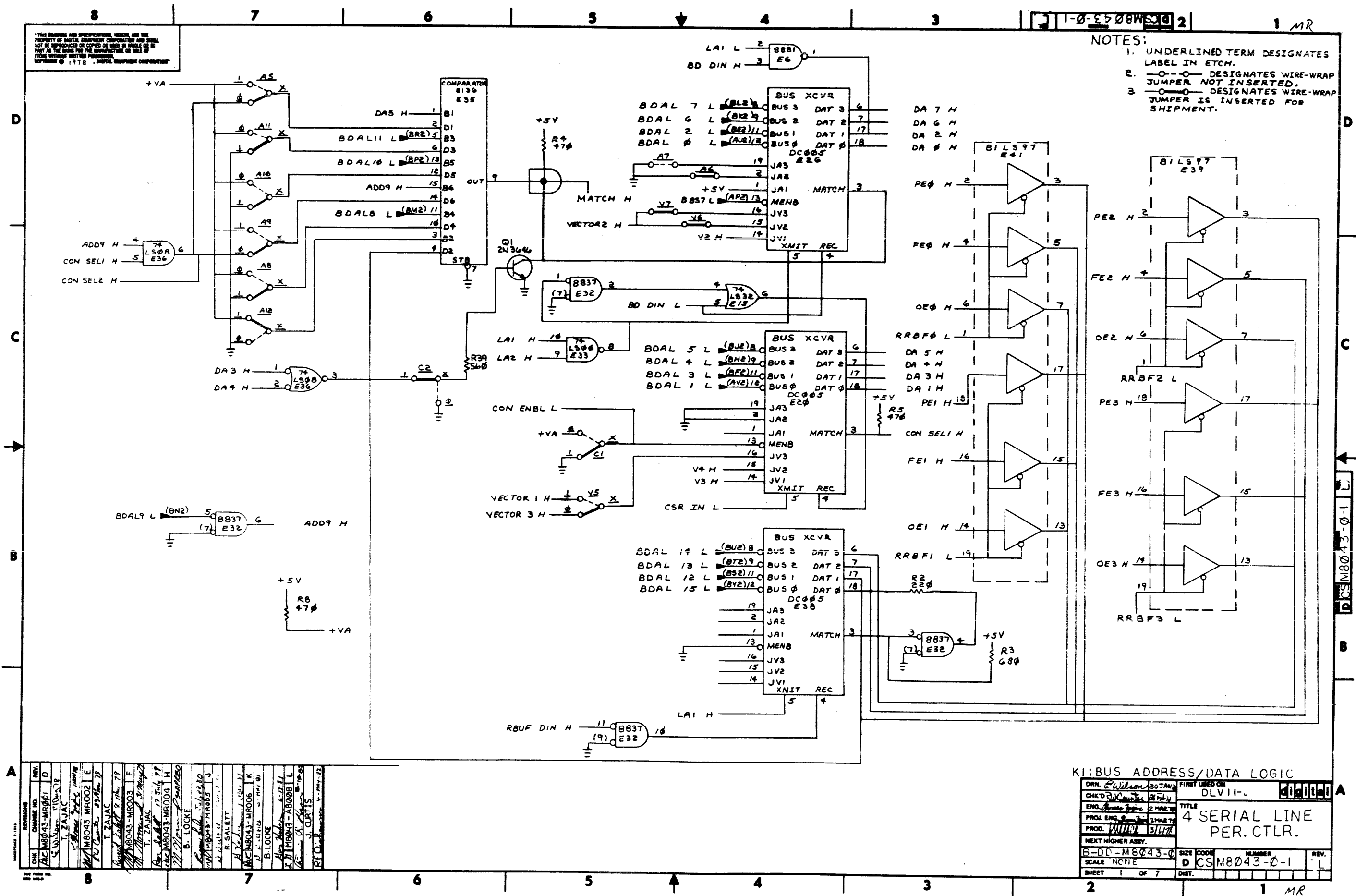
PN

SHEET 01 OF 01

| LINE | ITEM | DOCUMENT NUMBER | PART NUMBER | DESCRIPTION                      | QUANTITY PER VARIATION |    |
|------|------|-----------------|-------------|----------------------------------|------------------------|----|
|      |      |                 |             |                                  | J                      | JA |
| 1    | 1    |                 | M8043-00    | DLV11-J,4-SERIAL LINE PERIPHEREL | 1                      | 1  |
| 2    | 2    |                 | 9905622-00  | BOX,FOLDING                      | 1                      | -  |
| 3    | 3    |                 | 7018204-00  | D315 SLU EXPANSION ASSY          | -                      | 1  |
| 4    | 4    |                 | 9009701-00  | SCREW,PAN,PHIL,SEMS 6-32X .312L  | -                      | 4  |
| 5    | 5    |                 | 3700273-00  | INSTR PKG KIT OPTION IBV11-A     | -                      | 1  |
| 6    | 6    | C-UA-H315-B-0   | 0H315-00    | MODEM TEST CONNECTOR             | 1                      | 4  |

|                                                                                                                                                                                                                                           |            |     |                          |  |                     |  |                      |  |                               |      |             |     |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----|--------------------------|--|---------------------|--|----------------------|--|-------------------------------|------|-------------|-----|--|
| REVISION HISTORY                                                                                                                                                                                                                          |            |     | BASIC PART NO: DLV11     |  | DRN: B. CSERPES     |  | DATE: 02-MAR-82      |  | D I G I T A L                 |      |             |     |  |
| ENG                                                                                                                                                                                                                                       | ECO NUMBER | REV | SECTION A OF A           |  | CHK'D: L. GILBERT   |  | DATE: 02-MAR-82      |  | TITLE PARTS LIST              |      |             |     |  |
|                                                                                                                                                                                                                                           | INITIAL    | A   | SECTION. VARIATION INDEX |  | [A] J ,JA           |  | DATE: 02-MAR-82      |  | DLV11-JA INSTALLATION ARRANG. |      |             |     |  |
|                                                                                                                                                                                                                                           |            |     | [B]                      |  | DES.ENG.: J.CURTIS  |  | DATE: 02-MAR-82      |  |                               |      |             |     |  |
|                                                                                                                                                                                                                                           |            |     | [C]                      |  | RESP.ENG.: J.CURTIS |  | DATE: 02-MAR-82      |  | DOCUMENT NUMBER               |      |             |     |  |
|                                                                                                                                                                                                                                           |            |     | [D]                      |  |                     |  |                      |  | SIZE                          | CODE | NUMBER      | REV |  |
|                                                                                                                                                                                                                                           |            |     | [E]                      |  | MFG.ENG.: N.POLLITT |  | DATE: 02-MAR-82      |  | K                             | PL   | DLV11-J-DBP | A   |  |
|                                                                                                                                                                                                                                           |            |     | [F]                      |  | ASSEMBLY NUMBER:    |  | TOP DOCUMENT NUMBER: |  | FILE NAME:                    |      | EDIT #      |     |  |
|                                                                                                                                                                                                                                           |            |     |                          |  | D-AR-DLV11-J-4      |  | B-DD-DLV11-J-0       |  | DLV11A.PLS                    |      | 7           |     |  |
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| 10.43.19.01.13.01                                                                                                                                                                                                                         |            |     |                          |  |                     |  |                      |  |                               |      |             |     |  |

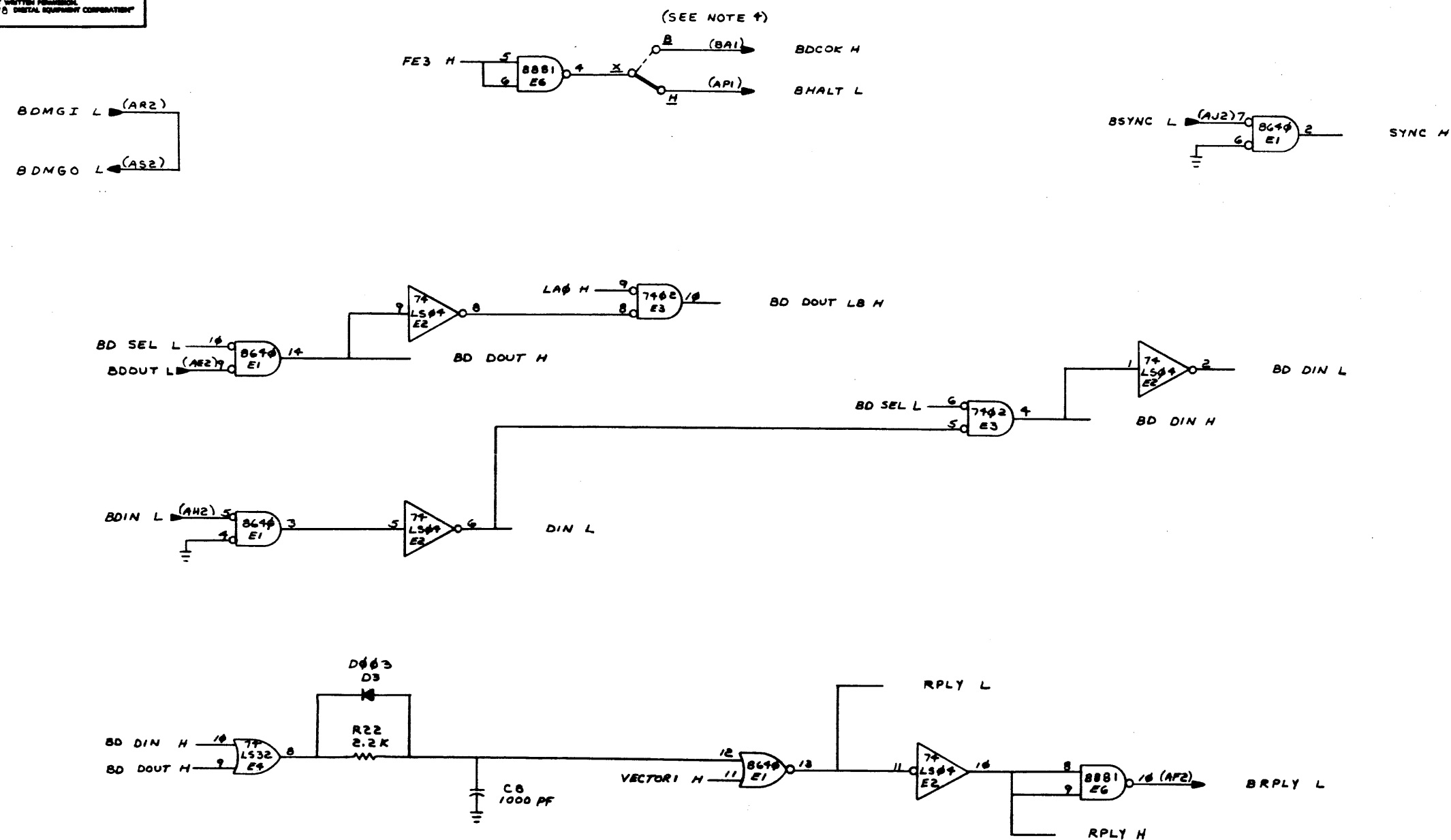




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NOTES:

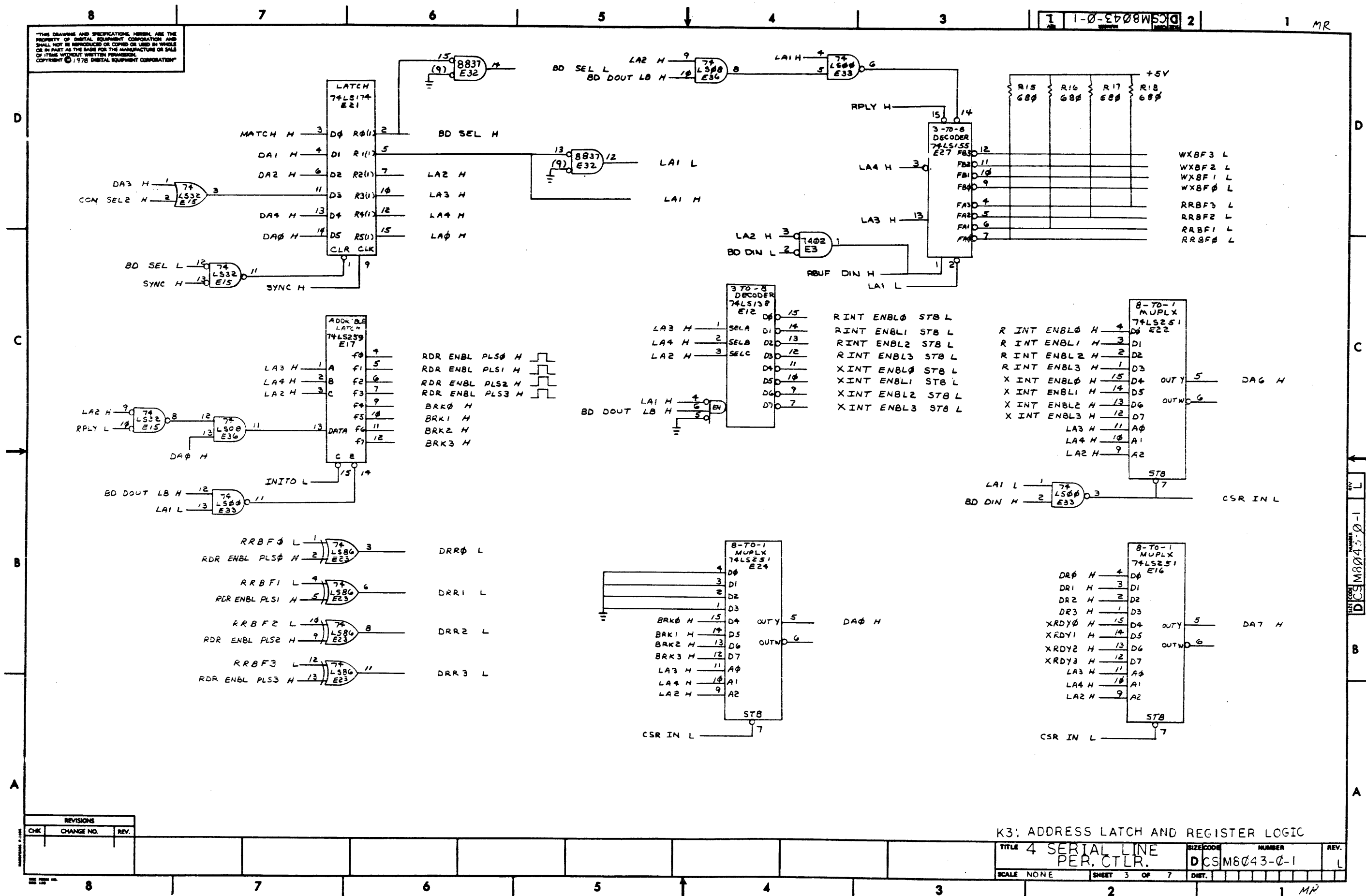
TO ENABLE HALT ON  
RECEIVING BREAK, CONNECT  
X TO H. TO ENABLE BOOT  
ON RECEIVING BREAK, CONNECT  
X TO A.



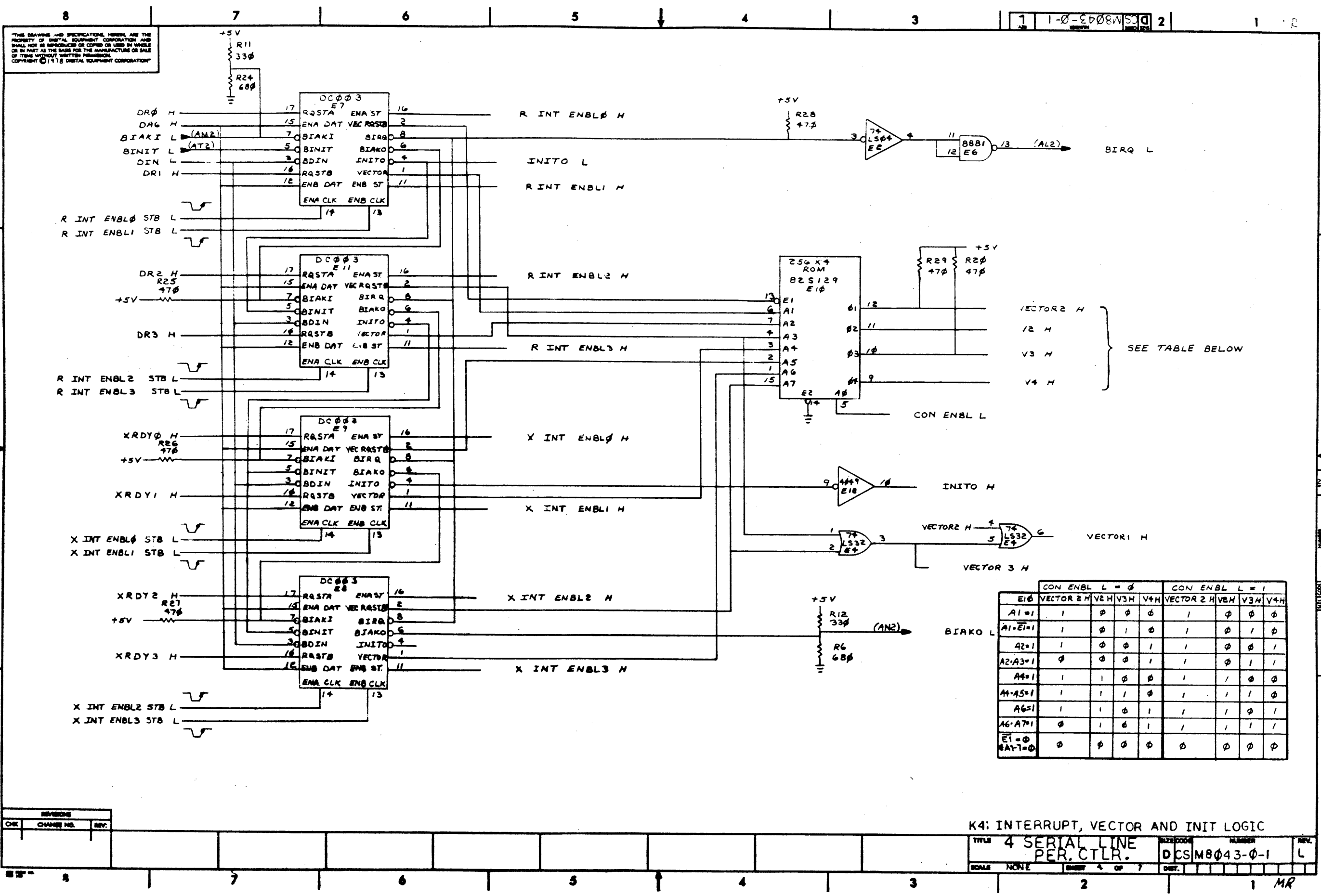
| REVISIONS |            |      |
|-----------|------------|------|
| CHK       | CHANGE NO. | REV. |
|           |            |      |

## K2: CONTROL AND HALT/BOOT LOGIC

|                                   |              |          |                  |        |
|-----------------------------------|--------------|----------|------------------|--------|
| TITLE 4 SERIAL LINE<br>PER. CTRL. |              | SIZE DCS | NUMBER M8043-0-1 | REV. L |
| SCALE NONE                        | SHEET 2 OF 7 | DIST.    |                  |        |

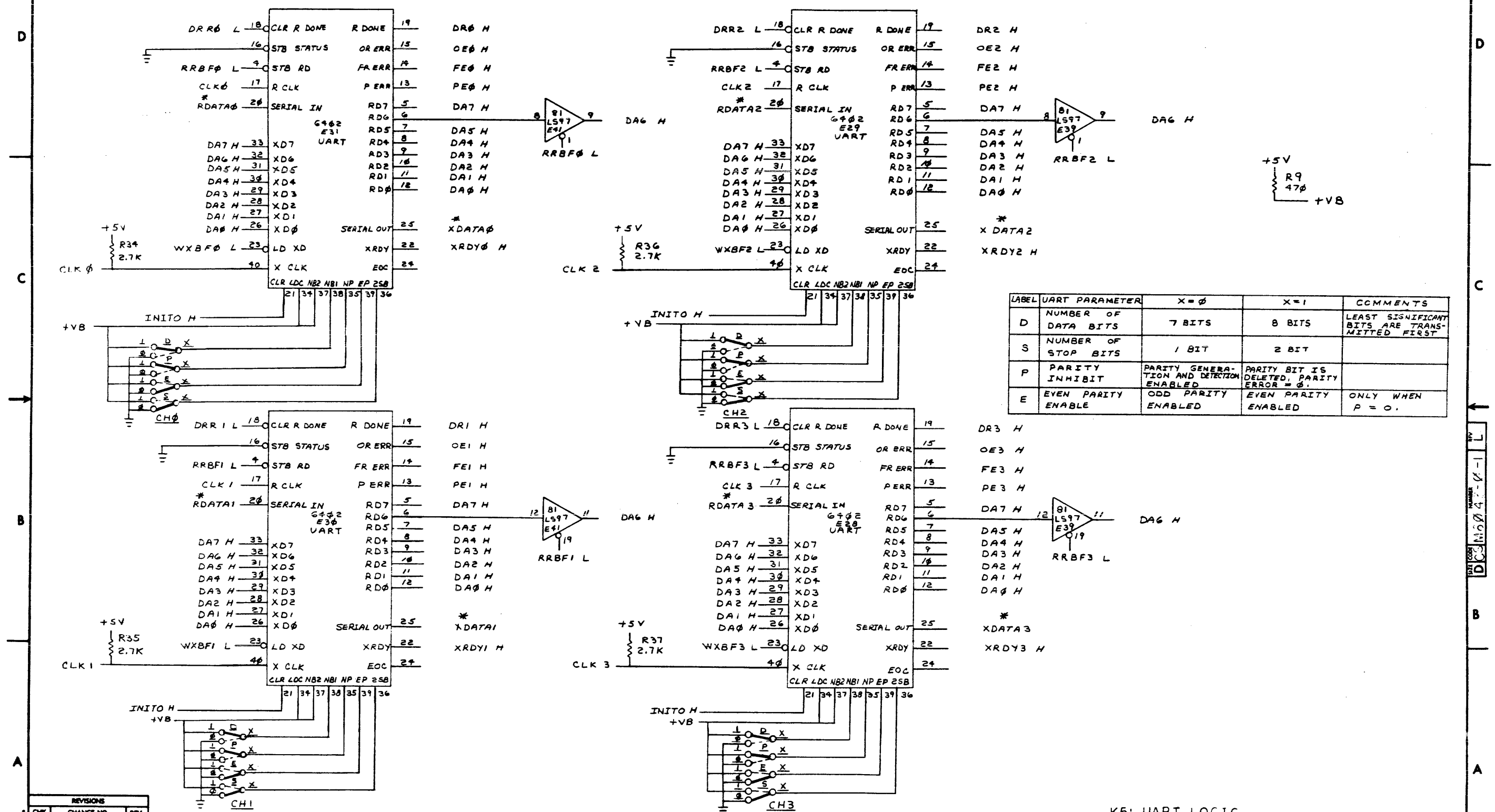






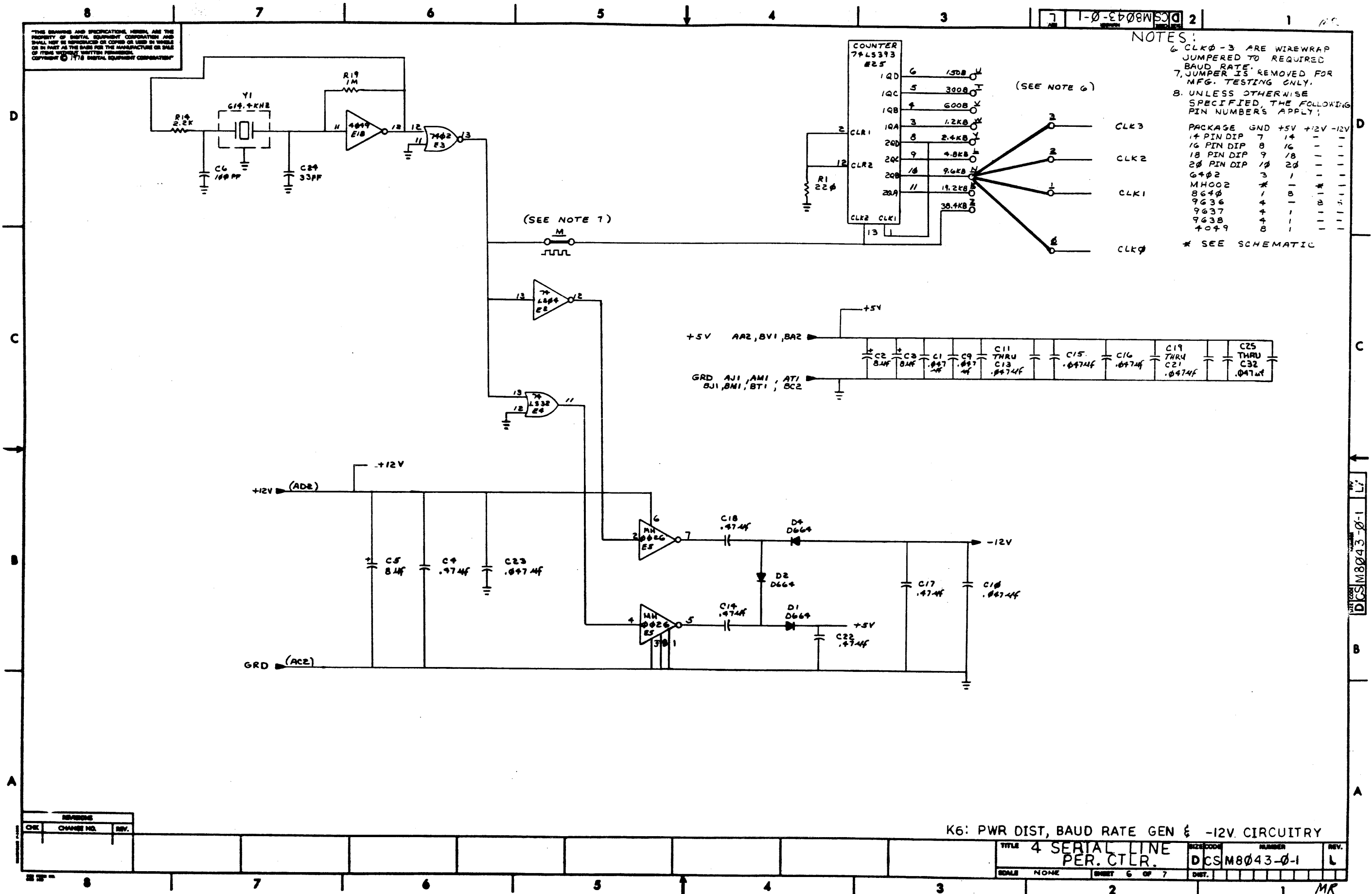
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NOTES:  
\* S, Y HIGH = MARK = 1  
Y LOW = SPACE = 0

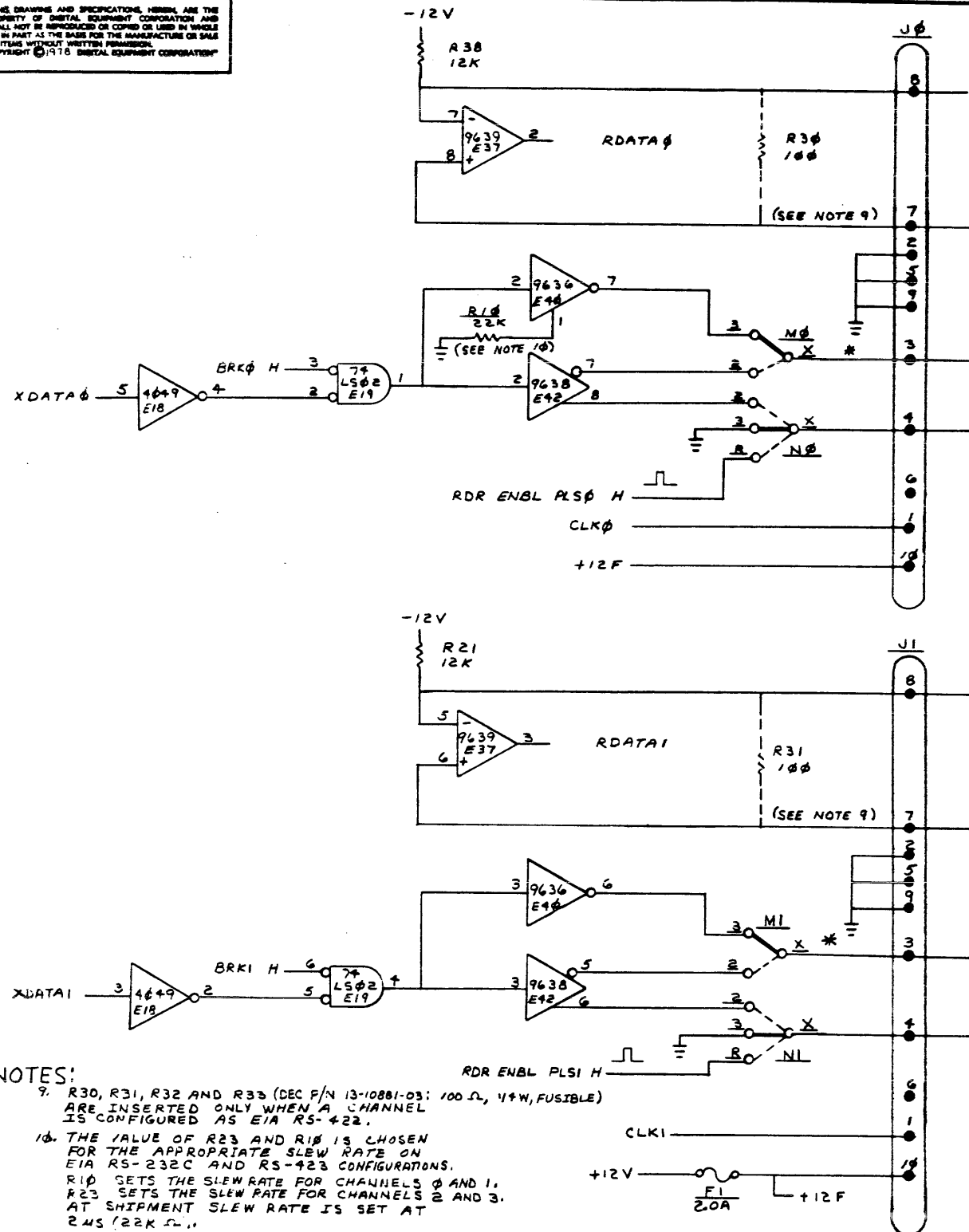


K5: UART LOGIC

|       |                          |           |              |        |  |      |   |
|-------|--------------------------|-----------|--------------|--------|--|------|---|
| TITLE | 4 SERIAL LINE PER. CTRL. | SIZE CODE | DCSM8043-0-1 | NUMBER |  | REV. | L |
| SCALE | NONE                     | SHEET     | 5 OF 7       | DIST.  |  |      |   |



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# NOTES:

9. R30, R31, R32 AND R33 (DEC P/N 13-10881-03: 100  $\Omega$ , 1/4W, FUSIBLE) ARE INSERTED ONLY WHEN A CHANNEL IS CONFIGURED AS EIA RS-422.
10. THE VALUE OF R23 AND R10 IS CHOSEN FOR THE APPROPRIATE SLEW RATE ON EIA RS-232C AND RS-423 CONFIGURATIONS. R10 SETS THE SLEW RATE FOR CHANNELS 0 AND 1. R23 SETS THE SLEW RATE FOR CHANNELS 2 AND 3. AT SHIPMENT SLEW RATE IS SET AT 245 (22K  $\Omega$ ).

- \* 11.  $\nabla$  LOW = MARK = 1  
 $\nabla$  HIGH = SPACE = 0

RCV DATA0 +

RCV DATA0 -

XMT DATA0 +

XMT DATA0 -

KEY (NO PIN)

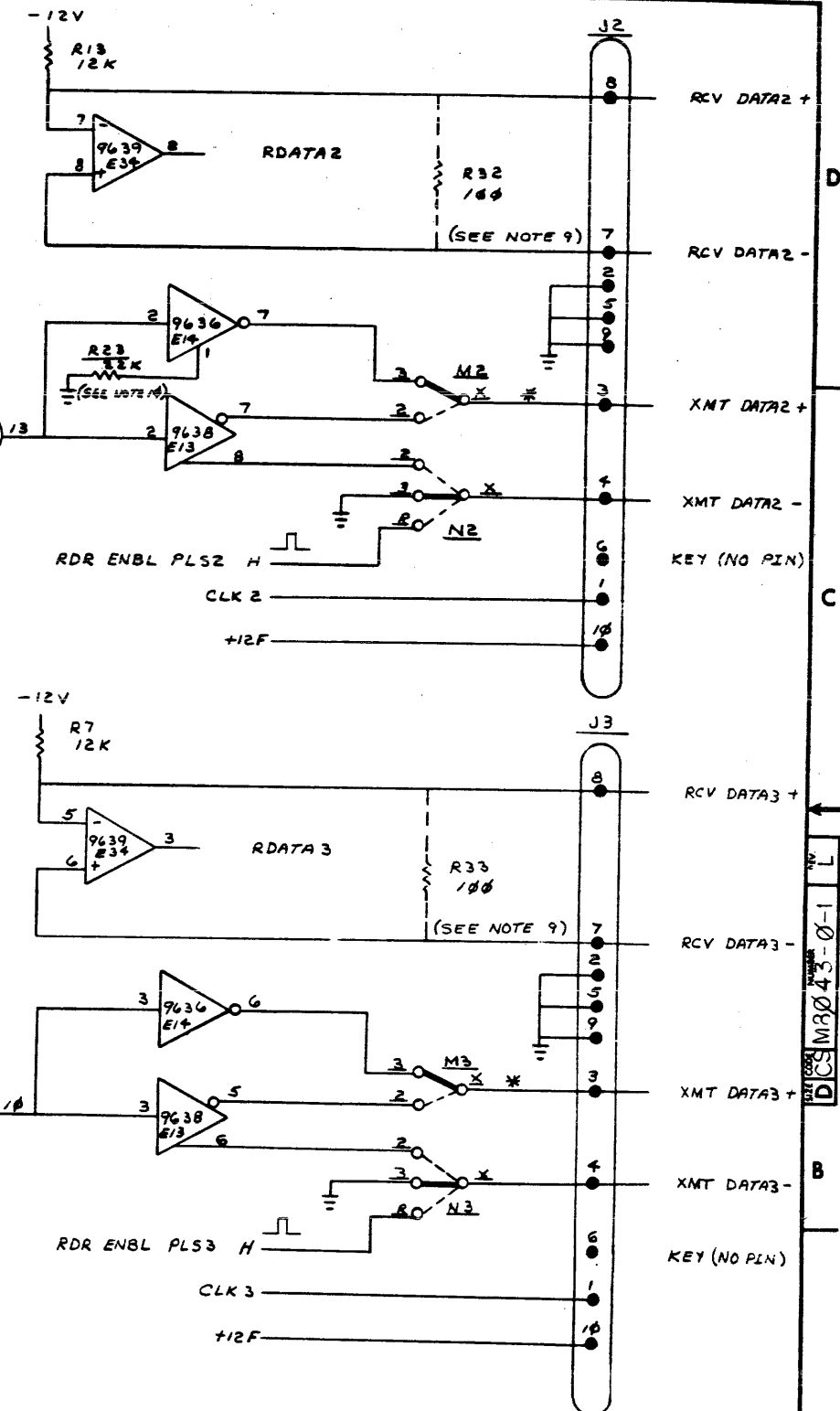
RCV DATA1 +

RCV DATA1 -

XMT DATA1 +

XMT DATA1 -

KEY (NO PIN)



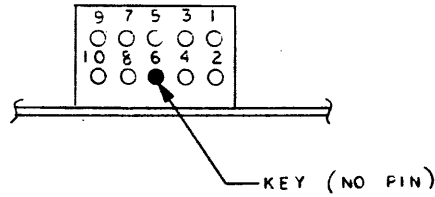
K7: LINE INPUT/OUTPUT LOGIC

TITLE 4 SERIAL LINE PER. CTRL.

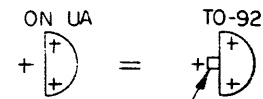
SIZE CODE NUMBER REV.  
DCSM8043-0-1 L

SCALE ACNE SHEET 7 OF 7 DIST.

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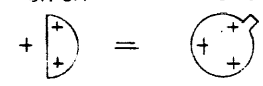


NOTES:  
1. PLACEMENT OF Q1 FOR TO 92(LEADS IN-LINE)

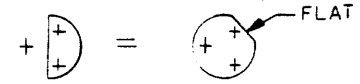


BEND MIDDLE LEAD OUT

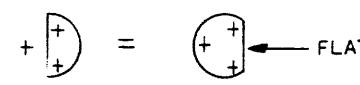
FOR TO 18 PKG (METAL CAN)  
ON UA



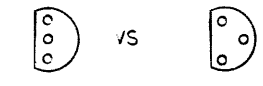
FOR TO-105/106 PKG (ROUND TOP PLASTIC)  
ON UA



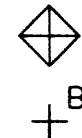
FOR LEADS IN TRIANGULAR PATTERN  
ON UA



NOTE: DIFFERENCE  
TO-92



DETAIL A-A  
4 PLACES



48 (QTY 2)

9 (QTY 4)

COMPONENT SIDE VIEW

56

53  
(SEE NOTE 1)

NOTES: 1. R30 THRU R33 OPTIONAL  
2. CASE OF Y: MUST BE INSULATED FROM PCB WITH ITEM #53  
3. JUMPER (ITEM #56) INSULATED FOR SHIPMENT

| CHANGE NO | REV | DATE     | BY       | CHKD | APPD |
|-----------|-----|----------|----------|------|------|
| 1         | 1   | 12/14/71 | T. ZAJAC |      |      |
| 2         | 2   | 12/14/71 | T. ZAJAC |      |      |
| 3         | 3   | 12/14/71 | T. ZAJAC |      |      |
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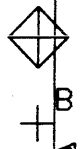
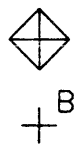
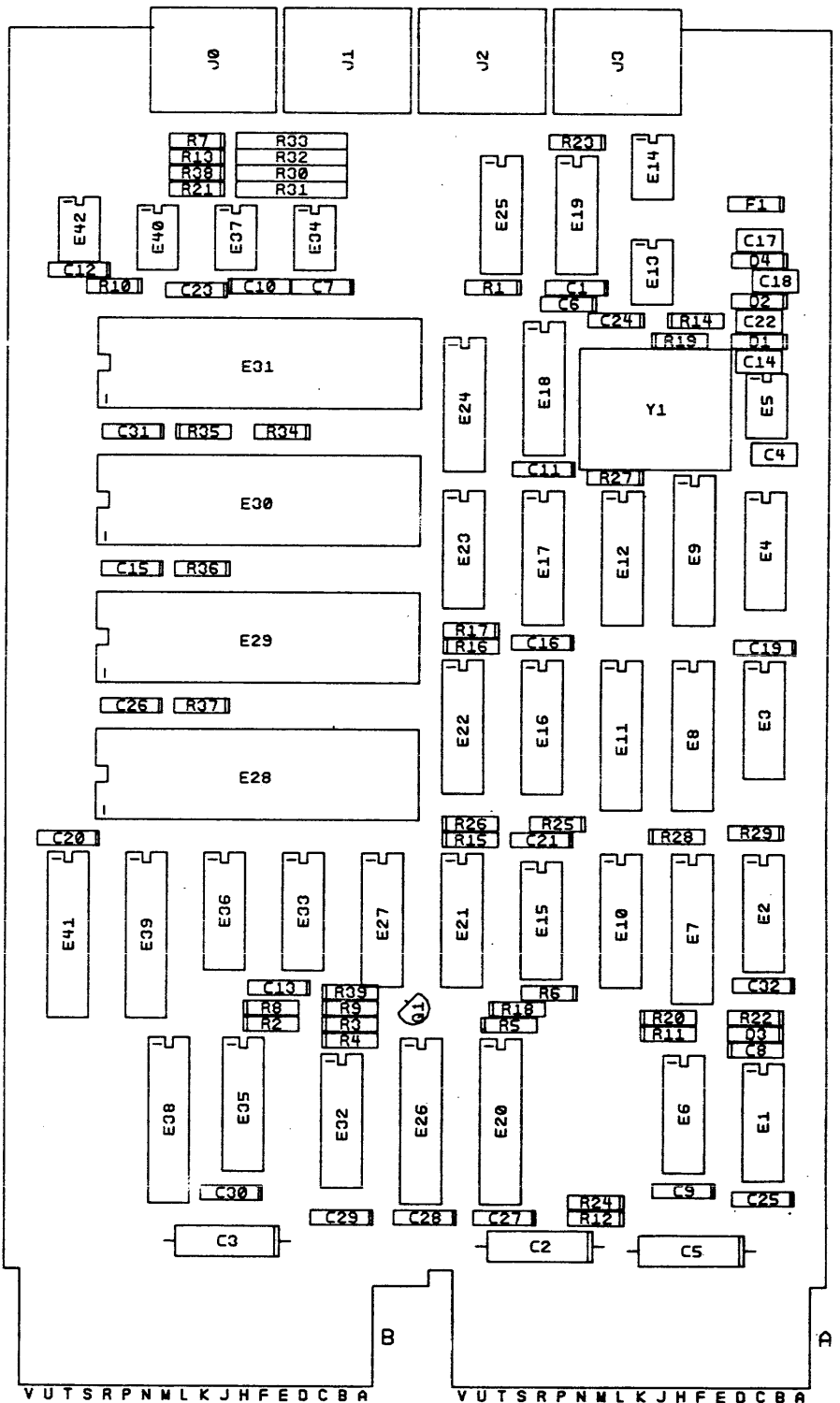
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| P.C. DESIGN DATA BASE REV. | C    |

| SIGNATURES                     | DATE     |
|--------------------------------|----------|
| DRN. D. J. J.                  | 12/14/71 |
| CHK'D. D. J. J.                | 12/14/71 |
| ENG. D. J. J.                  | 12/14/71 |
| PROJ. ENG. D. J. J.            | 12/14/71 |
| PROD. K. MERCADE               | 12/14/71 |
| SCALE 2/1                      |          |
| SHT. 1 OF 2                    |          |
| NEXT HIGHER ASSY. B-DQ-M8043-0 |          |

|                     |             |
|---------------------|-------------|
| TITLE 4 SERIAL LINE | PER. CTLR   |
| SIZE CODE           | NUMBER      |
| D UA                | M8043-0-0 J |

MR 1 MS# 190028D

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NOTES:

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| CHG | CHANGE NO | REV |
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| SIGNATURES                     |  | DATE | digital             |
| DRN.                           |  |      |                     |
| CHK'D.                         |  |      |                     |
| ENG.                           |  |      |                     |
| PROJ. ENG.                     |  |      |                     |
| PROD.                          |  |      | TITLE 4 SERIAL LINE |
| SCALE 2/1                      |  |      | PER. CTRL           |
| SHT. 2 OF 2                    |  |      | SIZE CODE NUMBER    |
| NEXT HIGHER ASSY. B-DD-M8043-0 |  |      | 0 UA M8043-0-0 J    |